

SAMPLE COURSE PLAN OF TEACHERS

Name of the teacher	Department
Dr. Dimpy Das	Botany
Dulu Moni Das	Botany
Neelakshi Hazarika	Chemistry
Dr. Bishwajit Saikia	Chemistry
Dr. Nayan Jyoti Khound	Chemistry
Jonali Dutta	Chemistry
Dr. Deborshee Gogoi	Commerce
Dr. Sampreeti Baruah	Commerce
Samrat Bharadwaj	Commerce
Dr. Subhadeep Chakraborty	Commerce
Murchana Gogoi	Commerce
Pradip Ch. Das	Commerce
Karuna Phukan	Economics
Suraj Hajong	Economics
Subhashish Gogoi	Economics
Poban Gogoi	Education
Sneha Gogoi	Education
Pradip Dutta	Education
Ankit Chetry	Electronics
Dr. Nabadweep Chamuah	Electronics
Dr. Chandana Chetia	English
Dr. Pabitra Bharali	English
Sanjoy Das	English
Dr. Sangeeta Baruah Saikia	Geography
Narendra Kr. Das	Geography
Dr. Pradip Kr. Bharati	Hindi
Dr. Anuradha Kumari Sahu	Hindi
Dr. Anamika Neog	History
Dr. Jatindra Lahkar	Mathematics
Mukul Buragohain	Mathematics
Dr. Arjun Singh Chetry	Mathematics
Dr. Binod Chetry	Mathematics
Dr. Biswajit Das	Mathematics
Dr. Deep Kumar Kuri	Physics
Dr. Rashmi Patowary	Physics
Jitu Borah	Political Science
Dr. Janardan Borah	Political Science
Banjit Kumar Das	Political Science
Sewali Hazarika Saikia	Rural Development
Rajib Rudra Tariang	Zoology
Aparajita Gogoi	Zoology
Dr. Kishor Haloi	Zoology
Dr. Moni Konkana Kalita	Zoology

Department of Botany

DIGBOI COLLEGE**Name of the teacher: Dr. Dimpy Das****Course Plan; June 2020 to February 2021**Semester: 1st Semester (Honours)

Name of Paper: BC102T; Biomolecules and Cell Biology

Units Assigned: 3 (unit 1, 2,3)

Marks Assigned: 27

Class	Topic/Unit	Remarks
20	Unit 1: Biomolecules Types and significance of chemical bonds; structure and properties of water, pH and buffers Carbohydrates: nomenclature and classification; monosaccharides; disaccharides; oligosaccharides and polysaccharides. Lipids: Definition and major classes of storage and structural lipids; fatty acids structure and functions; essential fatty acids, triacyl glycerols structure, functions and properties, phosphoglycerides. Proteins: structure of amino acids; levels of protein structure- Primary, secondary, tertiary and quaternary; protein denaturation and biological roles of proteins. Nucleic acids: structure of nitrogenous bases; structure and function of nucleotides, types of nucleic acids, structure of A,B,Z types of DNA; types of RNA; structure of tRNA.	
4	Unit 2: Bioenergetics Laws of thermodynamics, concept of free energy, endergonic and exergonic reactions, coupled reactions, redox reactions, ATP structure, its role as a energy currency molecule.	
6	Unit 3: Enzymes Structure of enzymes, holoenzymes, apoenzymes, cofactors, coenzymes and prosthetic group. Classification of enzymes; features of active site, substrate specificity, mechanism of action (activation energy, lock and key hypothesis, induced-fit theory), Michaelis – Menten equation, enzyme inhibition and factors affecting enzyme activity.	

Semester: 1st Semester (Generic)

Name of Paper: BG101T; Biodiversity

Units Assigned: 2 (Unit 6,7)

Marks Assigned: 15

Class	Topics/Unit	Remarks
10	Unit 6: Bryophytes General characteristics, adaptations to land habit, classification, range of thallus organization. Classification (up to family), morphology, anatomy and reproduction of Marchantia and Funaria. Ecological and economic	

	importance of bryophytes with special mention of Sphagnum.	
8	Unit 7: Pteridophytes General characteristics, classification, Early land plants (Cooksonia and Rhynia). Classification (up to family), morphology, anatomy and reproduction of Selaginella, Equisetum and Pteris. Heterospory and seed habit, stelar evolution. Ecological and economical importance of Pteridophytes.	

Semester: 3rd Semester (Honours)

Name of Paper: BC306T; Economic Botany

Units Assigned: Whole paper

Marks Assigned: 53

Class	Topic/Unit	Remarks
6	Unit 1: Origin of cultivated plants Concept of centres of origin, their importance with reference to Vavilov's work. Indigenous Knowledge System (IKS). Examples of major plant introductions; crop domestication and loss of genetic diversity; evolution of new crops/varieties, importance of germplasm diversity.	
6	Unit 2: Cereals Wheat and rice (origin, morphology, processing and uses); brief account of wheat	
6	Unit 3: Legumes Origin, morphology and uses of chick pea, pigeon pea and fodder legumes. Importance to man and ecosystem.	
4	Unit 4: Sources of sugars and starches Morphology and processing of sugarcane, products and by-products of sugarcane industry. Potato – morphology, propagation and uses.	
6	Unit 5: Spices Listing of important spices, their family and part used. Economic importance with special reference to fennel, saffron, clove, cinnamomum, cardamom and black pepper.	
4	Unit 6: Beverages Tea, Coffee (morphology, processing and uses)	
8	Unit 7: Sources of oils and fats General description, classification, extraction, their uses and health implications groundnut, coconut, linseed, soybean, mustard and coconut (Botanical name, family and uses). Essential oils: general account, extraction methods, comparison with fatty oils and their uses.	
3	Unit 8: Natural rubber Para rubber; tapping, processing and uses.	
8	Unit 9: Drug-yielding plants Therapeutic and habit forming drugs with special reference to Cinchona, Rawolfia, Andrographis, Aloe vera	

	and <i>Phyllanthus</i> (Morphology, processing, uses and health hazards).	
3	Unit 10: Timber plants General account with special reference to teak, sal, pine and sisu.	
3	Unit 11: Fibres Classification based on the origin of fibres; cotton, coir and jute (morphology, extraction and uses)	
4	Unit 12: Aromatics and petrocrops General account and special reference to <i>Aquilaria</i> , <i>Cymbopogon</i> , <i>Vetiveria</i> , <i>Jetropa</i> , <i>Ricinus</i> , <i>Pogostemon</i> .	

Semester: 3rd Semester (Generic)

Name of Paper: BG303T; Plant anatomy and embryology

Units Assigned: 2 (Unit 6 and 7)

Marks Assigned: 10

Class	Topic/Unit	Remarks
8	Unit 6: Pollination and fertilization Pollination mechanisms and adaptations, double fertilization; seed structure appendages and dispersal mechanisms	
8	Unit 7: Embryo and endosperm Endosperm types, structure and functions; dicot and monocot embryo; embryo-endosperm relationship.	

Semester: 5th Semester (Major, Non CBCS)

Name of Paper: BOTMT 505; Functional and chemical biology

Units Assigned: Whole Paper

Marks Assigned: 48

Class	Topic/Unit	Remarks
10	Unit 1: Concept of biomolecules, polymeric substances in plants- a brief study of polysaccharides, lipids, proteins, nucleic acids, chlorophylls with special reference to their functions	
4	Unit 2: Metabolic concept – anabolism and catabolism	
10	Unit 3: Secondary plant products- Terpenoids, phenols, flavonoids, anthocyanins, alkaloids, non-protein amino acids	
10	Unit 4: General account of – plant hormones and their role (Auxins, gibberellins, cytokinins, florigen, abscisic acid), phytochrome and storage products.	
3	Unit 5: Mechanism of source sink relationship	

Semester: 5th Semester (General, Non CBCS)

Name of Paper: BOTGT 501; Cytogenetics, evolution and biostatistics

Units Assigned: 3 (unit 2,3 and 4).

Marks Assigned: 30

Class	Topic/Unit	Remarks
15	Cytogenetics Unit 2: Concept of ploidy and its application, Mendel's laws, linkage, crossing over and chromosome mapping, concept of gene, allele and mutation.	
8	Unit 3: Knowledge of non-chromosomal inheritance, concept of genetic engineering and crop improvement.	
4	Unit 4: Concept of protoplast, cell and organ culture, tissue culture techniques and its application and somatic hybridization.	

Semester: 2nd Semester (Honours)

Name of Paper: Archegoniate

Units Assigned: 2 (Unit 4 and 5)

Marks Assigned: 15

Class	Topic/Unit	Remarks
6	Unit 4: Pteridophytes General characteristics, classification; early land plants (Psilophyton and Rhynia).	
14	Unit 5: Type studies – Pteridophytes Classification (up to family). Morphology, anatomy and reproduction of Psilotum, Selaginella, Equisetum and Ophioglossum, Marselia. Apospory and apogamy, heterospory and seed habit, telome theory, stelar evolution, Ecological and economic importance.	

Semester: 2nd Semester (Generic)

Name of Paper: Plant physiology and metabolism

Units Assigned: 2 (Unit 8 and 9)

Marks Assigned: 15

Class	Topic/Unit	Remarks
6	Unit 8: Plant growth regulators Discovery and physiological roles of auxins, gibberellins, cytokinins, ABA, ethylene.	
6	Unit 9: Plant response to light and temperature	

	Photoperiodism (SDP, LDP, Day neutral plants); phytochrome (discovery and structure), red and far red light response on photomorphogenesis; Vernalization.	

Semester: 4th Semester (Honours)

Name of Paper: BC410T, Plant systematics

Units Assigned: Whole Paper

Marks Assigned: 53

Class	Topic/Unit	Remarks
12	Unit 1: Significance of plant systematic Introduction to systematic; kingdom concept, plant identification, classification, nomenclature. evidences from palynology, cytology, phytochemistry and molecular data; Field inventory; functions of herbarium, important herbaria and botanical gardens of the world and India, Virtual herbarium; E-flora; Documentation; flora, monographs, journals; Keys: single access and multi access.	
6	Unit 2: Taxonomic hierarchy Concept of taxa (family, genus, species); categories and taxonomic hierarchy; species concept (taxonomic, biological evolutionary).	
10	Unit 3: Morphology and botanical nomenclature Angiosperm morphology, principles and rules (ICN= International Code of Nomenclature of Algae, fungi and plants); Ranks and nams; typification, author citation, valid publication, rejection of names, principle of priority and its limitations; Names of hybrids.	
12	Unit 4: Systems of classification Major contributions of Theophrastus, Bauhin, Tournefort, Linnaeus, Adanson, de Candolle, Bessey, Hutchinson, Takhtajan and Cronquist; Classification systems of Bentham and Hooker (up to series), Engler and Prantl (up to series); Brief reference of Angiosperm Phylogeny Group (APG III) classification.	
10	Unit 5: Biometrics, numerical taxonomy and cladistics Characters; variations; OTUs, character weighting and coding; cluster analysis; phenograms, cladograms (definitions and differences)	
12	Unit 6: Phylogeny of Angiosperms Terms and concepts (primitive and advanced, homology and analogy, parallelism and convergence, monophyly, paraphyly, polyphyly and clades). Origin and evolution of life (mechanism and theories), Origin and evolution of angiosperms; co-evolution of angiosperms and animals; Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram).	

Semester: 4th Semester (Generic)

Name of Paper: BG404T, Plant ecology and taxonomy

Units Assigned: 7 (Unit 6, 7, 8, 9, 10, 11 and 12)

Marks Assigned: 30

Class	Topic/Unit	Remarks
2	Unit 6: Introduction to plant taxonomy Identification, classification, nomenclature.	
4	Unit 7: Identification Functions of herbarium, important herbaria and botanical gardens of the world and India; Documentation: Flora, Keys: single access and multi access	
6	Unit 8: Taxonomic evidences from palynology, cytology, phytochemistry and molecular data.	
2	Unit 9: Taxonomic hierarchy Ranks, categories and taxonomic groups	
6	Unit 10: Botanical nomenclature Principles and rules (ICN); ranks and names; binomial system, typification, author citation, valid publication, rejection of names, principle of priority and its limitatuins.	
6	Unit 11: Classification Types of classification – artificial, natural and phylogenetic. Bentham and Hooker (up to series), Engler and Prantl (up to series).	
4	Unit 12: Biometrics, numerical taxonomy and cladistics Characters; variations; OTUs, character weighting and coding; cluster analysis; phenograms, cladograms (definitions and differences)	

Semester: 6th Semester (Major)

Name of Paper: Biophysics and Bioinformatics

Units Assigned: Whole Paper

Marks Assigned: 48

Class	Topic/Unit	Remarks
3	Biophysics Unit 1: Scope and development of biophysics. pH and buffer solution in details.	
4	Unit 2: Laws of thermodynamics, concept of free energy, redox potential and bioenergetics (only high energy compound).	
8	Unit 3: X-ray crystallography (XRD), Chromatography, laser and its biological applications. Florescence and its application, basic concept of NMR and ultra sound.	
3	Unit 4: Isotopes, types, their importance in biological studies, measure of radioactivity.	
4	Bioinformatics	

	Unit 1: Fundamentals of bioinformatics: introduction, history and scope of bioinformatics, sources of information, internet, world wide web and web browsers.	
6	Unit 2: Biological database: introduction, basic concepts of primary and secondary databases; nucleic acid and protein sequence database (NCBI, genebank and SWISS-PROT); data mining and data mining tools (ENTREZ).	
8	Unit 3: Database search and sequence alignment, tools of sequence alignment – FASTA and BLAST; methods of sequence alignment.	
5	Unit 4: Phylogenetic analysis: basic concept, steps in evaluation of phylogeny and constructing phylogenetic trees.	

Semester: 6th Semester (General)

Name of Paper: BOTGT 601; Biochemistry, plant ecology and plant geography

Units Assigned: 2 (Unit 1 and 2)

Marks Assigned: 16

Class	Topic/Unit	Remarks
8	Biochemistry Unit 1: Basic principles of biochemistry, acid, base, pH and buffer (inorganic and organic) enzymes, (physiological properties), vitamins and coenzymes and their importance.	
12	Unit 2: General account of carbohydrates, fats, proteins, nucleic acids and their importance.	

Semester: 1st Semester (Honours)

Name of Paper: BC102T; Biomolecules and Cell Biology

Units Assigned: 3 (unit 1, 2,3)

Marks Assigned: 27

Class	Topic/Unit	Remarks
20	Unit 1: Biomolecules Types and significance of chemical bonds; structure and properties of water, pH and buffers Carbohydrates: nomenclature and classification; monosaccharides; disaccharides; oligosaccharides and polysaccharides. Lipids: Definition and major classes of storage and structural lipids; fatty acids structure and functions; essential fatty acids, triacyl glycerols structure, functions and properties, phosphoglycerides. Proteins: structure of amino acids; levels of protein structure- Primary, secondary, tertiary and quaternary; protein denaturation and biological roles of proteins. Nucleic acids: structure of nitrogenous bases; structure and function of nucleotides, types of nucleic acids,	

	structure of A,B,Z types of DNA; types of RNA; structure of tRNA.	
4	Unit 2: Bioenergetics Laws of thermodynamics, concept of free energy, endergonic and exergonic reactions, coupled reactions, redox reactions, ATP structure, its role as a energy currency molecule.	
6	Unit 3: Enzymes Structure of enzymes, holoenzymes, apoenzymes, cofactors, coenzymes and prosthetic group. Classification of enzymes; features of active site, substrate specificity, mechanism of action (activation energy, lock and key hypothesis, induced-fit theory), Michaelis – Menten equation, enzyme inhibition and factors affecting enzyme activity.	

Semester: 1st Semester (Generic)

Name of Paper: BG101T; Biodiversity

Units Assigned: 2 (Unit 6,7)

Marks Assigned: 15

Class	Topics/Unit	Remarks
10	Unit 6: Bryophytes General characteristics, adaptations to land habit, classification, range of thallus organization. Classification (up to family), morphology, anatomy and reproduction of Marchantia and Funaria. Ecological and economic importance of bryophytes with special mention of Sphagnum.	
8	Unit 7: Pteridophytes General characteristics, classification, Early land plants (Cooksonia and Rhynia). Classification (up to family), morphology, anatomy and reproduction of Selaginella, Equisetum and Pteris. Heterospory and seed habit, stelar evolution. Ecological and economical importance of Pteridophytes.	

Semester: 3rd Semester (Honours)

Name of Paper: Economic Botany

Units Assigned: Whole paper

Marks Assigned: 53

Class	Topic/Unit	Remarks
	Unit 1: Origin of cultivated plants Concept of centres of origin, their importance with reference to Vavilov's work. Indigenous Knowledge System (IKS). Examples of major plant introductions; crop	

	domestication and loss of genetic diversity; evolution of new crops/varieties, importance of germplasm diversity.	
	Unit 2: Cereals Wheat and rice (origin, morphology, processing and uses); brief account of wheat	
	Unit 3: Legumes Origin, morphology and uses of chick pea, pigeon pea and fodder legumes. Importance to man and ecosystem.	
	Unit 4: Sources of sugars and starches Morphology and processing of sugarcane, products and by-products of sugarcane industry. Potato – morphology, propagation and uses.	
	Unit 5: Spices Listing of important spices, their family and part used. Economic importance with special reference to fennel, saffron, clove, cinnamomum, cardamom and black pepper.	
	Unit 6: Beverages Tea, Coffee (morphology, processing and uses)	
	Unit 7: Sources of oils and fats General description, classification, extraction, their uses and health implications groundnut, coconut, linseed, soybean, mustard and coconut (Botanical name, family and uses). Essential oils: general account, extraction methods, comparison with fatty oils and their uses.	
	Unit 8: Natural rubber Para rubber; tapping, processing and uses.	
	Unit 9: Drug-yielding plants Therapeutic and habit forming drugs with special reference to Cinchona, Rawolfia, Andrographis, Aloe vera and Phyllanthus (Morphology, processing, uses and health hazards).	
	Unit 10: Timber plants General account with special reference to teak, sal, pine and sisu.	
	Unit 11: Fibres Classification based on the origin of fibres; cotton, coir and jute (morphology, extraction and uses)	
	Unit 12: Aromatics and petrocrops	

Semester: 3rd Semester (Generic)

Name of Paper: Plant anatomy and embryology

Units Assigned: 2 (Unit 6 and 7)

Marks Assigned: 15

Class	Topic/Unit	Remarks
8	Unit 6: Pollination and fertilization Pollination mechanisms and adaptations, double fertilization; seed structure appendages and dispersal mechanisms	
8	Unit 7: Embryo and endosperm	

	Endosperm types, structure and functions; dicot and monocot embryo; embryo-endosperm relationship.	

Semester: 5th Semester (Honours)

Name of Paper: Research Methodology

Units Assigned: Whole paper

Marks Assigned: 53

Class	Topic/Unit	Remarks
	Unit 1: Basic concept of research Research-definition and types of research (descriptive vs analytical; applied vs fundamental; quantitative vs qualitative; conceptual vs empirical). Research methods vs methodology. Literature review and its consolidation; library research; field research; laboratory research.	
	Unit 2: General laboratory practices Common calculations in botany laboratories. Understanding the details on the label of reagent bottles. Molarity and normality of common acids and bases. Preparation of solutions. Dilutions. Percentage solutions. Molar, Molal and normal solutions. Technique of handling micropipettes; Knowledge about common toxic chemicals and safety measures in their handling.	
	Unit 3: Data collection and documentation of observations Maintaining a laboratory record; tabulation and generation of graphs. Imaging of tissue specimens and application of scale bars. The art of field photography.	
	Unit 4: Overview of biological problems History; key biological research areas, model organisms in biology (a brief overview); genetics, physiology, biochemistry, molecular biology, cell biology, genomics, proteomics- transcriptional regulatory network.	
	Unit 5: Methods to study plant cell/tissue structure Whole mounts, peel mounts, squash preparation, clearing, maceration and sectioning; tissue preparation; living vs fixed, physical vs chemical fixation, coagulating fixatives, non-coagulant fixatives; tissue dehydration using graded solvent series; Paraffin and plastic infiltration; preparation of thin and ultrathin sections.	
	Unit 6: Plant microtechniques Staining procedures, classification and chemistry of stains. Staining equipment. Reactive dyes and fluorochromes (including genetically engineered protein labelling with GFP and other tags). Cytogenetic techniques with squashed materials.	
	Unit 7: The art of scientific writing and its presentation Numbers, units, abbreviations and nomenclature used in scientific writing. Writing references. Powerpoint presentation. Poster presentation. Scientific writing and	

	ethics. Introduction to copyright-academic misconduct/plagiarism.	

Semester: 1st Semester (M. Sc.)

Name of Paper: LSC102, Cell biology and Genetics

Units Assigned: 3 (Unit 4, 5 and 6)

Marks Assigned: 50

Class	Topic/Unit	Remarks
20	Genetics Unit 4: Deviations of Mendelism, Pleiotropy, penetrance and expressivity, phenocopy, multiple alleles and multiple genes ; Chromosomal mechanism of sex determination, sex linked, sex limited and sex influenced characters; Cytoplasmic inheritance, Linkage and crossing over, phase, group, mechanism and stages of occurrence of crossing over; gene mapping in eukaryotes, three point test cross. Epigenetics; concepts and molecular basis.	
14	Unit 5: Mutation: numerical and structural chromosomal mutation, autopolyploidy and allopolyploidy, spontaneous and induced mutation; mutagens and their action, gene mutation, frame shift and substitutional mutation, DNA damage and repairing.	
9	Unit 6: Concept of population genetics and Hardy – Weinberg law, human genetics, genetic disorders and syndromes, eugenics, eugenics and euphenics; genetic counselling; Basic idea on human genome project (HGP), genomic library and gene targeting	

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Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Honours

Class/Semester- 1st semester (H)

Paper code:-BC101T

Name of the Paper- Microbiology & Phycology

Units Assigned- Unit 1, Unit 2, Unit 3, Unit 4

Marks Assigned- 33

Class	Topic/ Unit	Remarks
1.	Introduction to virus & discovery of virus.	Explanations
2.	Physiochemical & biological Character of virus.	Explanations
3.	Classification of virus.	Explanations
4.	Replication in virus, Lytic cycle.	Explanations
5.	Lysogenic cycle & TMV.	Explanations
6.	Viroids & Prions.	Explanations
7.	Economic importance of virus with reference to vaccine production.	Notes
8.	Role of virus in research & medicine diseases diagnosis.	Notes
9.	Discovery of bacteria & history of bacteriology.	Explanations
10.	Classification of bacteria.	Explanations
11.	Cell structure & Cell wall of bacteria.	Explanations
12.	Nutrition & growth of bacteria.	Explanations
13.	Economic importance of bacteria with reference to role in agriculture.	Notes
14.	Economic importance of bacteria with reference to role in industry medicine.	Notes
15.	General characters, ecology & distribution of Algae.	Explanations
16.	Cell structure of Algae.	Explanations
17.	Pigmentation, reserved food material & flagellation in algae.	Explanations
18.	Range of thallus structure in Algae.	Notes
19.	Classification in Algae.	Explanations
20.	Classification in Algae.	Explanations
21.	Classification in Algae.	Explanations
22.	Role of Algae in environment.	Notes
23.	Role of Algae in agriculture.	Notes
24.	Role of Algae in biotechnology.	Notes
25.	Role of Algae in industry.	Notes

Course –Honours / Generic – Honours Class/Semester- 1st semester (H)

Paper Code: BC101P. Name of the Paper- Microbiology & Phycology

Units Assigned- Practical

Marks Assigned- 24

Class	Topic/ Unit	Remarks
1.	Study about Photograph of T- Phage virus & TMV.	Practical
2.	Line drawing of Lytic & Lysogenic cycle.	Practical
3.	Study about Permanent slides of binary fission, endospore & conjugation in bacteria.	Practical
4.	Study about nodule bacteria by gram stain method.	Practical
5.	Study about nodule bacteria by gram stain method.	Practical

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Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Honours Class/Semester- 2nd semester (H)

Paper code:-203 T Name of the Paper- Mycology & Phytopathology

Units Assigned- Unit 1, Unit 2, Unit 3, Unit 4, Unit 5, Unit 6.

Marks Assigned- 53

Class	Topic/ Unit	Remarks
1.	General Characters of fungi & affinity with plants & animals.	Explanations
2.	Thallus organization & cell wall composition of fungi.	Notes
3.	Nutrition & Classification of fungi.	Explanations
4.	General characters of Chytridiomycetes	Explanations
5.	Zygomycetes, reproduction & life cycle of <i>Rhizopus</i> sp.	Explanations
6.	Ascomycetes , life cycle of <i>Saccharomycetes</i> sp.	Explanations
7.	Life cycle of <i>Aspergillus</i> sp., <i>Penicillium</i> sp.	Explanations
8.	Life cycle of <i>Neurospora</i> sp. & <i>Peziza</i> sp.	Explanations
9.	General character of Basidiomycetes.	Explanations
10.	Life cycle of <i>Puccinia</i> sp.	Explanations
11.	Life cycle of <i>Ustilago</i> sp.	Explanations
12.	Life cycle of <i>Agaricus</i> .	Explanations
13.	Bioluminescence & Mushroom Cultivation.	Notes
14.	General characters of Oomycetes	Explanations
15.	Life cycle of <i>Phytophthora</i> sp.	Explanations
16.	Life cycle of <i>Albugo</i> sp.	Explanations
17.	General account & classification of Mycorrhiza.	Explanations
18.	Mycorrhiza; use & economic importance	Notes
19.	General account & classification of Lichen	Explanations
20.	economic importance of Lichen	Notes
21.	Applied mycology.	Explanations
22.	Applied mycology	Explanations
23.	Introduction & terms used in phytopathology	Explanations
24.	Host parasite interaction.	Notes
25.	Methods to control plant diseases.	Notes
26.	Viral diseases of plants	Explanations
27.	Bacterial diseases of plants	Explanations
28.	Fungal diseases of plants	Explanations
29.	Fungal diseases of plants	Explanations
30.	Fungal diseases of plants	Explanations

Course –Honours / Generic – Honours

Class/Semester:- 2nd semester (H). Paper code:-203 T Name of the Paper- Mycology & Phytopathology

Units Assigned- Practical Marks Assigned- 32

Class	Topic/ Unit	Remarks
1.	Practical on Fungi.	5 Specimens
2.	Lichen morphology	3 Specimens
3.	Phytopathology	5 Specimens

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Honours Class/Semester:- 3rd semester (H)

Paper code:-305 T Name of the Paper:-Anatomy of Angiosperms

Units Assigned- Unit 1, Unit 2, Unit 3.

Marks Assigned- 30

Class	Topic/ Unit	Remarks
1.	Introduction to plant Anatomy	Explanations
2.	Plant Anatomy in forensic science & pharmacognasy	Notes
3.	Cell & tissue	Explanations
4.	Types of tissue	Explanations
5.	Tissue System	Explanations
6.	Classification of tissue system	Explanations
7.	Function of tissue	Explanations
8.	Cytodifferentiation & organogenesis	Explanations
9.	Theories of organogenesis	Notes
10.	Structure of monocot & dicot stem	Explanations
11.	Structure of monocot & dicot leaf	Explanations
12.	Kranz Anatomy	Explanations
13.	Organogenesis in root	Notes
14.	Structure of monocot root	Explanations
15.	Structure of dicot root	Explanations

Course –Honours / Generic – Honours

Class/Semester- 3rd semester (H) Paper code:- 305P Name of the Paper- Anatomy of Angiosperms

Units Assigned- Practical Marks Assigned- 32

Class	Topic/ Unit	Remarks
1.	Stem with secondary growth	4 Specimens
2.	Leaf Anatomy	2 Specimens
3.	Permanent Slides	5 Specimens

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Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Honours Class/Semester- 4th semester (H)

Paper code:-409 T Name of the Paper- Ecology & phytogeography

Units Assigned- Unit 1, Unit 2, Unit 3, Unit 4, Unit 5, Unit 6.

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Basic concept & introduction to ecology	Explanations
2.	Biotic & abiotic factors & interactions	Explanations
3.	Components of ecosystem	Explanations
4.	Pedology, Physical, chemical & biological structure of soil.	Explanations
5.	Soil profile	Explanations
6.	Role of soil in development of vegetation.	Explanations
7.	Water quality & characters.	Explanations
8.	Hydrological cycle	Explanations
9.	Water in development of vegetation & climate.	Explanations
10.	Light & temperature in development of vegetation	Explanations
11.	Fire in development of vegetation	Explanations
12.	Biotic interaction	Explanations
13.	Biotic interaction	Explanations
14.	Biotic interaction	Explanations
15.	Plant community	Explanations
16.	Synthetic characters of Plant community	Explanations
17.	Analytical characters of Plant community	Explanations
18.	Biogeochemical cycle	Notes
19.	Biogeochemical cycle	Notes
20.	Biogeochemical cycle	Notes
21.	Plant Succession	Explanations
22.	Plant Succession	Explanations
23.	Plant Succession	Explanations
24.	Ecosystem	Explanations
25.	Structure of Ecosystem	Explanations
26.	Function of Ecosystem	Explanations
27.	Energy flow in Ecosystem	Explanations

Course –Honours / Generic – Honours

Class/Semester-4th semester (H). Paper code:- 409P Name of the Paper- Ecology & phytogeography

Units Assigned- Practical Marks Assigned- 32

Class	Topic/ Unit	Remarks
1.	Practical related to plant ecology	5 practical's
2.	Practical related to ecological adaptation	4 Specimens
3.	Practical related to phytogeography	Model submission

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Honours Class/Semester- 5th semester (H)

Paper code:- BD504T Name of the Paper- Industrial & Environmental Microbiology

Units Assigned- Unit 1, Unit 2, Unit 3, Unit 4, Unit 5, Unit 6, Unit 7

Marks Assigned- 53

Class	Topic/ Unit	Remarks
1.	Bioreactors & fermentation processes.	Explanations
2.	Types of bioreactors	Notes
3.	Types of bioreactors	Notes
4.	Fermentation processes	Explanations
5.	Fermentation processes	Explanations
6.	Microbes used in fermentation	Explanations
7.	Media for fermentation	Explanations
8.	Production of enzymes	Explanations
9.	Production of enzymes	Explanations
10.	Production of organic acids	Explanations
11.	Production of alcohols	Explanations
12.	Production of medicines	Explanations
13.	Enzyme preparation in industrial scale	Notes
14.	Enzyme immobilization	Notes
15.	Application of enzyme	Explanations
16.	Microbes of air, soil & water.	Explanations
17.	Microbes use in sewage disposal	Notes
18.	Quality of water, BOD,TOC	Notes
19.	Microbes of water	Explanations
20.	Microbes of soil	Explanations
21.	Role of microbes in contamination & reclamation of soil	Explanations
22.	Mycorrhiza	Explanations
23.	Role of Mycorrhiza in soil reclamation & agriculture	Notes

Course –Honours / Generic – Honours

Class/Semester- Class/Semester- 5th semester (H)

Paper code:-BD504T Name of the Paper- Industrial & Environmental Microbiology

Units Assigned- Practical Marks Assigned- 32

Class	Topic/ Unit	Remarks
1.	Instruments used in microbial laboratory	Practical
2.	Sterilization technique	Practical
3.	Culture media	Practical

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Generic Class/Semester- 1st semester (G)

Paper code:-BNC101T Name of the Paper- Biodiversity

Units Assigned- Unit 1, Unit 3

Marks Assigned- 15

Class	Topic/ Unit	Remarks
1.	History, General account on virus.	Explanations
2.	Living & non living characters of virus.	Notes
3.	Replication of virus.	Explanations
4.	Lytic & Lysogenic cycle in virus.	Explanations
5.	Discovery, history and general account on Bacteria.	Explanations
6.	Reproduction in bacteria.	Explanations
7.	Vegetative & asexual reproduction in bacteria.	Explanations
8.	Sexual reproduction in bacteria.	Explanations
9.	Economic importance of bacteria.	Explanations
10.	General characters on fungi.	Explanations
11.	Ecology & significance of fungi.	Explanations
12.	Range of thallus organization in fungi.	Explanations
13.	Cell structure of fungi.	Explanations
14.	Nutrition in fungi.	Explanations
15.	Classification in fungi.	Explanations
16.	Vegetative & asexual reproduction in fungi.	Explanations
17.	Sexual reproduction in fungi	Explanations
18.	General account on Zygomycetes, Life history of <i>Rhizopus</i> sp.	Notes
19.	General account on Ascomycetes	Explanations
20.	Life cycle of <i>Penicillium</i> sp.	Explanations
21.	General account on Basidiomycetes	Explanations
22.	Life history of <i>Puccinia</i> sp.	Explanations
23.	Life history of <i>Agaricus</i> sp.	Explanations
24.	General account on Lichen.	Notes
25.	General account on Mycorrhiza.	Notes
26.	Economic importance of Mycorrhiza.	Notes

Course –Honours / Generic – Generic

Class/Semester- 1st semester (G). Paper code:- BNC101P. Name of the Paper- Biodiversity

Units Assigned- Practical Marks Assigned- 12

Class	Topic/ Unit	Remarks
1.	Study about Photograph of T- Phage virus & TMV.	Practical
2.	Line drawing of Lytic & Lysogenic cycle.	Practical
3.	Study about Permanent slides of binary fission, endospore & conjugation in bacteria.	Practical
4	Study about nodule bacteria by gram stain method.	Practical
5	Study about nodule bacteria by gram stain method.	Practical
6	Study about fungi	4 Specimen

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Generic Class/Semester- 2nd semester (G)

Paper code:-BNC202T Name of the Paper- Plant Physiology & Metabolism

Units Assigned- Unit 1, Unit 2, Unit 5.

Marks Assigned- 15

Class	Topic/ Unit	Remarks
1.	Water in relation to plant.	Explanations
2.	Water potential & its components.	Explanations
3.	Transpiration.	Explanations
4.	Signification of Transpiration.	Notes
5.	Root pressure & Guttation.	Explanations
6.	Factors affecting transpiration.	Explanations
7.	Mineral nutrition.	Explanations
8.	Macro & micro elements.	Explanations
9.	Role of essential elements.	Explanations
10.	Transport of ions across cell membrane.	Explanations
11.	Active & Passive transport.	Explanations
12.	Carrier molecules, channels & pumps.	Explanations
13.	Respiration, Glycolysis .	Explanations
14.	Anaerobic respiration.	Explanations
15.	TCA cycle.	Explanations
16.	Oxidative phosphorylation	Explanations
17.	Pentose Phosphate Pathway	Explanations

Course –Honours / Generic – Generic

Paper code:- BNC202P Name of the Paper- Plant Physiology & Metabolism

Units Assigned- Practical Marks Assigned- 12

Class	Topic/ Unit	Remarks
1.	Experiment on Plasmolysis	Practical
2.	Demonstration on Hill reaction	Practical
3.	Experiment on CO ₂ evolution during photosynthesis	Practical
4	Compare in rate of respiration in different plants	Practical

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Generic Class/Semester- 3rd semester (G)

Paper code:-BNC303T Name of the Paper- Plant Anatomy & Embryology

Units Assigned- Unit 2, Unit 3, Unit 4, Unit 5

Marks Assigned- 25

Class	Topic/ Unit	Remarks
1.	Cell & Tissue in plants.	Explanations
2.	Tissue system in plants.	Explanations
3.	Tissue system in plants.	Explanations
4.	Structure of dicot root.	Explanations
5.	Structure of monocot root.	Explanations
6.	Structure of dicot stem.	Explanations
7.	Structure of monocot stem.	Explanations
8.	Structure of dicot leaf.	Explanations
9.	Structure of monocot leaf.	Explanations
10.	Structure of vascular cambium.	Explanations
11.	Secondary growth in stem.	Explanations
12.	Secondary growth in root.	Explanations
13.	Wood anatomy.	Explanations
14.	Ecological adaptation in Xerophytes.	Explanations
15.	Ecological adaptation in Hydrophytes.	Explanations
16.	Structural organization in flower	Explanations
17.	Structure & types of Androecium.	Explanations
18.	Structure & types of Gynoecium.	Notes
19.	Ovule Structure & types.	Notes

Course –Honours / Generic – Generic

Paper code:- BNC303P Name of the Paper- Plant Anatomy & Embryology

Units Assigned- Practical Marks Assigned- 16

Class	Topic/ Unit	Remarks
1.	Permanent slides	6 slides
2.	Practical on dicot stem.	2 specimen
3.	Practical of monocot stem.	2 specimen

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic – Generic Class/Semester- 4th semester (G)

Paper code:-404 T Name of the Paper- Ecology & Taxonomy

Units Assigned- Unit 4.

Marks Assigned- 08

Class	Topic/ Unit	Remarks
1.	Ecosystem	Explanations
2.	Structure of Ecosystem	Explanations
3.	Function of Ecosystem	Explanations
4.	Energy flow in Ecosystem	Explanations
5.	Biogeochemical cycle	Explanations
6.	Biogeochemical cycle	Explanations
7.	Biogeochemical cycle	Explanations
8.	Hydrological cycle	Explanations

Course –Honours / Generic – Generic

Paper code:-404 P Name of the Paper- Ecology & Taxonomy

Units Assigned- Practical Marks Assigned- 15

Class	Topic/ Unit	Remarks
1.	Practical related to plant ecology	4 practical's
2.	Practical related to ecological adaptation	2 Specimens

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic –Major Class/Semester- 5th semester (M)

Paper code:- 506 Name of the Paper- Ecology & phytogeography

Units Assigned- Unit 1, Unit 2, Unit 3, Unit 4, Unit 5, Unit 6.

Marks Assigned- 48

Class	Topic/ Unit	Remarks
1.	Basic concept & introduction to ecology	Explanations
2.	Biotic & abiotic factors & interactions	Explanations
3.	Components of ecosystem	Explanations
4.	Pedology, Physical, chemical & biological structure of soil.	Explanations
5.	Soil profile	Explanations
6.	Role of soil in development of vegetation.	Explanations
7.	Water quality & characters.	Explanations
8.	Hydrological cycle	Explanations
9.	Water in development of vegetation & climate.	Explanations
10.	Light & temperature in development of vegetation	Explanations
11.	Fire in development of vegetation	Explanations
12.	Biotic interaction	Explanations
13.	Biotic interaction	Explanations
14.	Biotic interaction	Explanations
15.	Plant community	Explanations
16.	Synthetic characters of Plant community	Explanations
17.	Analytical characters of Plant community	Explanations
18.	Plant Succession	Explanations
19.	Plant Succession	Explanations
20.	Plant Succession	Explanations
21.	Biogeochemical cycle	Notes
22.	Biogeochemical cycle	Notes
23.	Biogeochemical cycle	Notes
24.	Adaptation in Hydrophytes	Explanations
25.	Adaptation in Xerophytes	Explanations
26.	Adaptation in Epiphytes & Halophytes	Explanations
27.	Ecosystem	Explanations
28.	Structure of Ecosystem	Explanations
29.	Function of Ecosystem	Explanations
30.	Energy flow in Ecosystem	Explanations
31.	Habitat degradation	Explanations
32.	Ecological issues & problems.	Explanations
33.	Global ecological problems.	Explanations
34.	Concept on EIA	Explanations
35.	Conservation Biology, Ex situ & in situ conservation.	Explanations
36.	WWC, IUCN, NBWL, NBA	Explanations
37.	Concept on Biodiversity.	Explanations
38.	Flagship, Keystone & Endemic Species	Explanations
39.	Introduction to biodiversity.	Explanations
40.	Importance & conservation of biodiversity	Explanations

DIGBOI COLLEGE, DIGBOI

Course Plan

Course –Honours / Generic –Major Class/Semester- 5th semester (M)

Paper code:-507 Name of the Paper- Ecology & phytogeography

Units Assigned- Practical Marks Assigned- 32

Class	Topic/ Unit	Remarks
1	Instruments used in Plant ecology.	
2.	Practical related to plant ecology.	5 practicals
3.	Practical related to ecological adaptation.	4 Specimens
4.	Practical related to phytogeography.	Model submission

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course –Honours / Generic –Major Class/Semester- 6th semester (M)

Paper code:- 606 Name of the Paper- Agrotechnology & Sustainable utilization of Plants.

Units Assigned- Unit 1, Unit 2, Unit 3, Unit 4, Unit 5, Unit 6.

Marks Assigned- 48

Class	Topic/ Unit	Remarks
1.	Centre of origin, Vavilov's concept.	Explanations
2.	Ethnobotany and its importance in Indian context.	Explanations
3.	Indigenous Knowledge System.	Explanations
4.	Agrotechnology & economic importance of cereals.	Notes
5.	Agrotechnology & economic importance of oil yielding plants.	Notes
6.	Agrotechnology & economic importance of Pulses.	Notes
7.	Agrotechnology & economic importance of beverages.	Notes
8.	Agrotechnology & economic importance of Vegetables.	Notes
9.	Agrotechnology & economic importance of Spices & condiments.	Notes
10.	Agrotechnology & economic importance of Spices & condiments.	Notes
11.	Agrotechnology & economic importance of timber yielding plants.	Notes
12.	Agrotechnology & economic importance of Aromatic & petrocrops.	Notes
13.	Agrotechnology & economic importance of Aromatic & petrocrops	Notes
14.	Domestication of Plants.	Explanations
15.	Germplasm & gene bank	Explanations
16.	Biofertilizer & biopesticides.	Explanations
17.	Organic farming.	Explanations
18.	Use of lower group of Plants.	Explanations
19.	Use of lower group of Plants.	Explanations

Course –Honours / Generic –Major Class/Semester- 5th semester (M)

Paper code:- 607 Name of the Paper- Agrotechnology & Sustainable utilization of Plants.

Units Assigned- Practical Marks Assigned- 32

Class	Topic/ Unit	Remarks
1	Determination of pH of soil.	Practical
2.	Determination of WHC of soil.	Practical
3.	Determination of soil moisture.	Practical
4.	Determination of protein, fat & starch content of plant sample.	Practical
5.	Study of botanical character of useful plants.	15 nos.

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dulu Moni Das

Course:- Post Graduate Course in Life Science. Class/Semester:-M.Sc. 1st semester

Paper code:- LSD106 Name of the Paper- Microbiology

Units Assigned- Unit 1, Unit 3, Unit 5.

Marks Assigned- 50

Class	Topic/ Unit	Remarks
1.	Classification of Microorganism.	Explanations
2.	Bacterial taxonomy.	Explanations
3.	Bergeys' manuals.	Notes
4.	Advantages & Limitations of DNA & RNA systematic.	Explanations
5.	Ribotyping	Explanations
6.	Microbial metabolism.	Explanations
7.	Biochemistry of fermentation.	Explanations
8.	EMP pathway	Explanations
9.	HMP shunt.	Explanations
10.	E-D Pathway.	Explanations
11.	Pasteur effect.	Explanations
12.	Protein degradation.	Explanations
13.	Protein degradation.	Explanations
14.	Protein degradation.	Explanations
15.	Introduction to virus.	Explanations
16.	Process of infection.	Explanations
17.	Function of DNA & RNA in virus.	Notes
18.	Lytic cycle.	Explanations
19.	Lysogenic cycle.	Explanations
20.	Viroids	Notes
21.	Prions.	Notes
22.	Interferons.	Notes

Course :-Post Graduate Course in Life Science Class/Semester:-M.Sc. 1st semester

Paper code:- LSD107 Name of the Paper:- Microbiology

Units Assigned- Practical

Marks Assigned- 50

Class	Topic/ Unit	Remarks
1.	Study of nodule bacteria by Gram stain	Practical
2.	Study of curd bacteria by Gram stain	Practical
3.	Isolation & estimation of soil microorganism by serial dilution technique	Practical
4.	Pure culture	Practical

Department of Chemistry

DIGBOI COLLEGE, DIGBOI
Department of Chemistry
Course Plan (2020-2021)
SESSION JUN, 2020 TO DEC, 2020

Name of the Teacher- NEELAKSHI HAZARIKA

Course –Honours / Generic – 1S HONOURS

Class/Semester- 1st Sem Honours, CBCS

Name of the Paper- C- 101

Units Assigned- All

Marks Assigned-53

Class	Topic/ Unit	Remarks
1.	Unit I: Atomic Structure	
	Wave mechanics: Bohr's Theory de Broglie equation	
2.	Heisenberg's Uncertainty Principle and its significance	
3.	Schrödinger's wave equation	
4.	Normalized and orthogonal wave functions. Sign of wave functions.	
5.	Radial and angular wave functions for hydrogen atom.	
6.	Radial and angular distribution curves.	
7.	Shapes of s, p, d and f- orbitals.	
8.	Contour boundary and probability diagrams.	
9.	Pauli's Exclusion Principle, Hund's rule of maximum multiplicity	
10.	Aufbau's principle and its limitations.	
11.	Variation of orbital energy with atomic number	
12.	Numericals	
13.	significance of Ψ and Ψ^2 .	
14.	Quantum numbers and their significance.	
15.	Unit II: Periodicity of Elements: Effective	

- nuclear charge, shielding or screening effect
16. Variation of effective nuclear charge in periodic table.
 17. Slater rules, It's applications
 18. Atomic radii (van der Waals) and it's periodic variation
 19. Ionic and crystal radii. Covalent radii (octahedral and tetrahedral)
 20. Ionization enthalpy. Applications of ionization enthalpy.
 21. Successive ionization enthalpies and factors affecting ionization energy.
 22. Electron gain enthalpy, trends of electron gain enthalpy.
 23. Electronegativity and its periodic trend
 24. Pauling's electronegativity scales, Numericals
 25. Mulliken's electronegativity scales, Numericals
 26. Allred Rachow's electronegativity scales, Numericals
 27. Mulliken-Jaffé's electronegativity scales
 28. Factors affecting Electronegativity
 29. Applications of Electronegativity
 30. **Unit III: Chemical Bonding** i) *Ionic bond*: General characteristics, types of ions, size effects
 31. radius ratio rule and its limitations.
 32. Packing of ions in crystals.
 33. Lattice energy, Born-Lande's equation with derivation, Madelung constant
 34. Born-Haber cycle and its application, Solvation energy.
 35. *Covalent bond*: Lewis structure, Valence Bond theory (Heitler-London approach).
 36. Energetics of hybridization, equivalent and non-equivalent hybrid orbitals.
 37. Resonance and resonance energy,
 38. Molecular orbital theory. Molecular orbital diagrams of diatomic molecules N_2

39. Molecular orbital diagrams of O_2 , C_2 , B_2 , F_2 , CO , NO , and their ions; HCl , BeF_2
40. Molecular orbital diagrams of simple polyatomic molecules CO_2 , (idea of s-p mixing and orbital interaction to be given).
41. Formal charge, Valence shell electron pair repulsion theory (VSEPR)
42. Shapes of simple molecules and ions containing lone pairs and bond pairs of electrons.
43. Multiple bonding (σ - and π - bond approach) and bond lengths.
44. Covalent character in ionic compounds, polarizing power and polarizability
45. Fajan's rules and consequences of polarization.
46. Ionic character in covalent compounds: Bond moment and dipole moment.
47. Percentage ionic character from dipole moment and electronegativity difference.
48. *Metallic Bond*: Qualitative idea of valence bond
49. Band theories.
50. Semiconductors and insulators,
51. Defects in solids.
52. *Weak Chemical Forces*: van der Waals forces, ion-dipole forces, dipole-dipole interactions
53. Induced dipole interactions, Instantaneous dipole-induced dipole interactions
54. Hydrogen bonding (theories of hydrogen bonding, valence bond treatment).
55. **Unit IV: Oxidation-Reduction**: Redox equations
56. Standard Electrode Potential and its application to inorganic reactions.
57. Principles involved in volumetric analysis

DIGBOI COLLEGE, DIGBOI
Course Plan Session-Jun to Dec, 2020

Name of the Teacher-Neelakshi Hazarika

Course –Honours / Generic – Generic

Class/Semester- 1s Semester CBCS, C-Ge-101

Name of the Paper-Atomic Structure, Bonding,General Organic Chemistry and Aliphatic Hydrocarbons

Units Assigned- Section A: Inorganic Chemistry (Unit :I, II)

Marks Assigned- 26

Class	Topic/ Unit	Remarks
1.	Unit I: Atomic Structure Review of: Bohr's theory and its limitations	
2.	Dual behaviour of matter and radiation:de-Broglie's relation, Heisenberg Uncertainty principle.	
3.	Hydrogen atom spectra. Need of a new approach to Atomic structure	
4.	Quantum mechanics, Time independent Schrodinger equation and meaning of various terms in it.	
5.	Significance of Ψ and Ψ^2 .	
6.	Schrödinger equation for hydrogen atom	
7.	Radial and angular parts of the hydrogenic wave functions (atomic orbitals) and their variations for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation).	
8.	Radial and angular nodes and their significance.	
9.	Radial distribution functions and the concept of the most probable distance with special reference to 1s and 2s atomic orbitals.	
10.	Significance of quantum numbers	
11.	Orbital angular momentum and quantum numbers m_l and m_s .	
12.	Shapes of s, p and d atomic orbitals, nodal planes	
13.	Discovery of spin, spin quantum number (s) and magnetic spin quantum number (m_s).	
14.	Rules for filling electrons in various orbitals, Electronic configurations of the atoms.	
15.	Stability of half-filled and completely filled orbitals, concept of exchange energy.	

16. Relative energies of atomic orbitals, Anomalous electronic configurations
17. Unit II: Chemical Bonding and Molecular Structure
Ionic Bonding: General characteristics of ionic bonding.
18. Energy considerations in ionic bonding, lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds.
19. Statement of Born-Landé equation for calculation of lattice energy,
20. Born-Haber cycle and its applications,
21. Polarizing power and polarizability
22. Fajan's rules, ionic character in covalent compounds,
23. Bond moment, dipole moment and percentage ionic character.
24. Covalent bonding: VB Approach
25. Shapes of some inorganic molecules and ions on the basis of VSEPR and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements.
26. Concept of resonance and resonating structures in various inorganic and organic compounds.
27. MO Approach: Rules for the LCAO method, bonding and antibonding MOs and their characteristics for s-s, s-p and p-p combinations of atomic orbitals, nonbonding combination of orbitals
28. MO treatment of homonuclear diatomic molecules of 1st and 2nd periods (including idea of s-p mixing) and heteronuclear diatomic molecules such as CO, NO and NO⁺
29. Comparison of VB and MO approaches.

DIGBOI COLLEGE, DIGBOI
Course Plan, Session JUN to DEC, 2020

Name of the Teacher- NEELAKSHI HAZARIKA
 Course –Honours / Generic – HONOURS
 Class/Semester- 3rd Semester, CBCS
 Name of the Paper- Inorganic Chemistry

Units Assigned- All
Marks Assigned- 53

Class	Topic/ Unit	Remarks
1.	Unit I: General Principles of Metallurgy: Chief modes of occurrence of metals based on standard electrode potentials.	
2.	Ellingham diagrams for reduction of metal oxides using carbon and carbon monoxide as reducing agent.	
3.	Electrolytic Reduction,	
4.	Hydrometallurgy.	
5.	Methods of purification of metals: Electrolytic Kroll process,	
6.	Parting process, van Arkel-de Boer process	
7.	Mond's process, Zone refining	
8.	Unit II: Acids and Bases: Brönsted-Lowry concept of acid-base reactions, solvated proton.	
9.	relative strength of acids, types of acid-base reactions,	
10.	levelling solvents	
11.	Lewis acid-base concept,	
12.	Classification of Lewis acids,	
13.	Hard and Soft Acids and Bases (HSAB) Application of HSAB principle	
14.	Unit III: Chemistry of s and p Block Elements: Inert pair effect, Relative stability of different oxidation states	
15.	Diagonal relationship and anomalous behaviour of first member of each group. Allotropy and catenation.	
16.	Complex formation tendency of s and p block elements.	
17.	Study of the following compounds with emphasis on structure, bonding, preparation, properties and uses of Boric acid and borates	
18.	boron nitrides,	
19.	borohydrides (diborane),	
20.	Silanes	
21.	carboranes and graphitic compounds	
22.	Oxides and oxoacids of nitrogen, Phosphorus and chlorine.	
23.	Peroxoacids of sulphur, interhalogen compounds,	
24.	Polyhalide ions, pseudohalogens and basic properties of halogens.	
25.	Unit IV: Noble gases : Occurrence and uses	
26.	rationalization of inertness of noble gases	

27. Clathrates; preparation and properties of XeF_2 , XeF_4 and XeF_6 ;
28. Nature of bonding in noble gas compounds (Valence bond treatment and MO treatment for XeF_2).
29. Molecular shapes of noble gas compounds (VSEPR theory).
30. **Unit V: Inorganic Polymers:** Types of inorganic polymers, comparison with organic polymers
31. Synthesis, structural aspects and applications of silicones
32. Siloxanes.
33. Borazines
34. Silicates.
35. Phosphazenes
36. Polysulphates

DIGBOI COLLEGE, DIGBOI
Course Plan (Session Jun-Dec, 2020)

Name of the Teacher-NEELAKSHI HAZARIKA

Course –Honours / Generic – Non-Major

Class/Semester- 5th Sem (Non-CBCS)

Name of the Paper- NM 501, Inorganic Chemistry-II + Physical Chemistry-II

Units Assigned- I, Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Unit–I Nuclear Chemistry: Mass defect and binding energy, packing fraction	
2.	Stability of nucleus, neutron-proton ratio	
3.	Artificial radioactivity, nuclear fission	
4.	Nuclear reactors, separation of isotopes	
5.	Detection and measurement of radioactivity by GM counter.	
6.	Application of radio-isotopes in agriculture, medicine and industry.	
7.	Radiocarbon dating.	
8.	Unit-II Preparative Chemistry Preparation, properties and uses of the following compounds : Lithium aluminium hydride	
9.	potassium ferro and ferricyanide	
10.	sodium cobaltinitrite	

11. Sodium thiosulphate, Nessler's reagent,
12. Sodium borohydride, silica gel,
13. Pb containing paints
14. Zn containing paints
15. Unit-III Bioinorganic Chemistry:
Role of zinc
16. Role of iron
17. Role of cobalt
18. Role molybdenum
19. Sodium, potassium in biological system.
20. Role of Mg^{++} in chlorophyll.
21. Role of Ca in blood clotting
22. Poisoning due to heavy metal ion -Mercury
23. Cadmium poisoning
24. Lead poisoning
25. Arsenic poisoning

DIGBOI COLLEGE, DIGBOI
Course Plan Session Jun-Dec, 2020

Name of the Teacher- NEELAKSHI HAZARIKA

Course –Honours / Generic – Major

Class/Semester- 5th Sem, Non-CBCS

Name of the Paper-MM 503, Inorganic Chemistry-II

Units Assigned- All

Marks Assigned-48

Class	Topic/ Unit	Remarks
1.	UNIT –I: Organometallic compounds: Definition, electron count, 18 electron rule	
2.	Isolobal analogy	
3.	Compounds in catalysis ,Wilkinson's catalyst	
4.	Vaska's compound	
5.	$HCo(CO)_4$	
6.	Metal carbonyls: Structure, bonding	
7.	IR spectral studies of terminal and bridged carbonyls.	
8.	Structure and bonding in some Metal–Olefins compound,	
9.	Structure and bonding in metal – ligand σ -bonded compounds	
10.	Structure and bonding in ferrocene	

11. Oxidative addition
12. Reductive elimination reaction.
13. Uses of some organometallic
14. UNIT – II: Transition metal clusters:
Definition of cluster, metal – metal bond in cluster,
15. Synthesis of metal carbonyl cluster of Cr, Fe and Mo (only low nuclearity clusters up to 4 metal atoms).
16. Closed shell electronic requirement for cluster compounds –rules for Polyhedral Skeletal Electron Pair Theory.
17. Nitrosyl compounds: Synthesis, properties and structures of nitrosyls of Fe, Co and Ni.
18. UNIT – III: Error in quantitative analysis:
Accuracy, precession
19. Deviation, standard deviation, Numericals
20. Classification of errors, minimization of errors,
21. Significant figures.
22. Indicators: Choice of indicators in neutralization reactions.
23. Redox, adsorption and complexometric
24. Adsorption indicator
25. Complexometric indicator
26. UNIT – IV: Organic reagents in inorganic analysis :-
Cupferron, dithizone oxine
27. benzoin- α - oxime,
28. 1- nitroso-2- naphthol, diphenyl carbazide,
29. Diphenyl carbazone, salicylaldoxime,
30. 1,10- phenanthroline, magneson,
31. thiourea, zinc uranyl acetate,

DIGBOI COLLEGE, DIGBOI
Course Plan Session JUN- DEC, 2020

Name of the Teacher-NEELAKSHI HAZARIKA

Course –Honours / Generic – Major

Class/Semester- 5th Semester, NON-CBCS

Name of the Paper- MM 507, Symmetry and Quantum Chemistry

Units Assigned- Unit I

Marks Assigned- 15

Class	Topic/ Unit	Remarks
1.	Unit – I: Symmetry and Group theory: Symmetry elements and symmetry operations	
2.	Definition of group, symmetry group	
3.	point group and space group.	
4.	Perspective sketch and point group of some common molecules, H ₂ , HF,	
5.	CO ₂ , C ₂ H ₂ ,	
6.	C ₂ H ₄ , CHCl ₃ ,	
7.	PCl ₅ , NH ₃	
8.	BF ₃ , [PtCl ₄] ²⁻ , BrF ₅	
9.	symmetry and mathematical tools, matrix algebra,	
10.	reducible and irreducible representation, great orthogonality theorem	
11.	Character table for C _{2v}	
12.	Character table for C _{3v}	
13.	Determination of Γ_i for C _{2v}	
14.	Determination of Γ_i C _{3v} point groups.	

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Name of the Teacher- NEELAKSHI HAZARIKA
Course –Honours / Generic – 1S HONOURS
Class/Semester- 1st Sem Honours, CBCS
Name of the Paper- C- 101
Units Assigned- All
Marks Assigned-53

Class	Topic/ Unit	Remarks
1.	Unit I: Atomic Structure Wave mechanics: Bohr's Theory de Broglie equation	
2.	Heisenberg's Uncertainty Principle and its significance	
3.	Schrödinger's wave equation	
4.	Normalized and orthogonal wave functions. Sign of wave functions.	

5. Radial and angular wave functions for hydrogen atom.
6. Radial and angular distribution curves.
7. Shapes of s, p, d and f- orbitals.
8. Contour boundary and probability diagrams.
9. Pauli's Exclusion Principle, Hund's rule of maximum multiplicity
10. Aufbau's principle and its limitations.
11. Variation of orbital energy with atomic number
12. Numericals
13. significance of Ψ and Ψ^2 .
14. Quantum numbers and their significance.
15. **Unit II: Periodicity of Elements:** Effective nuclear charge, shielding or screening effect
16. Variation of effective nuclear charge in periodic table.
17. Slater rules, It's applications
18. Atomic radii (van der Waals) and it's periodic variation
19. Ionic and crystal radii. Covalent radii (octahedral and tetrahedral)
20. Ionization enthalpy. Applications of ionization enthalpy.
21. Successive ionization enthalpies and factors affecting ionization energy.
22. Electron gain enthalpy, trends of electron gain enthalpy.
23. Electronegativity and its periodic trend
24. Pauling's electronegativity scales, Numericals
25. Mulliken's electronegativity scales, Numericals
26. Allred Rachow's electronegativity scales, Numericals
27. Mulliken-Jaffé's electronegativity scales
28. Factors affecting Electronegativity

29. Applications of Electronegativity
30. **Unit III: Chemical Bonding** i) *Ionic bond*: General characteristics, types of ions, size effects
31. Radius ratio rule and its limitations.
32. Packing of ions in crystals.
33. Lattice energy, Born-Landé's equation with derivation, Madelung constant
34. Born-Haber cycle and its application, Solvation energy.
35. *Covalent bond*: Lewis structure, Valence Bond theory (Heitler-London approach).
36. Energetics of hybridization, equivalent and non-equivalent hybrid orbitals.
37. Resonance and resonance energy,
38. Molecular orbital theory. Molecular orbital diagrams of diatomic molecules N_2
39. Molecular orbital diagrams of O_2 , C_2 , B_2 , F_2 , CO , NO , and their ions; HCl , BeF_2
40. Molecular orbital diagrams of simple polyatomic molecules CO_2 , (idea of s-p mixing and orbital interaction to be given).
41. Formal charge, Valence shell electron pair repulsion theory (VSEPR)
42. Shapes of simple molecules and ions containing lone pairs and bond pairs of electrons.
43. Multiple bonding (σ - and π - bond approach) and bond lengths.
44. Covalent character in ionic compounds, polarizing power and polarizability
45. Fajan's rules and consequences of polarization.
46. Ionic character in covalent compounds: Bond moment and dipole moment.
47. Percentage ionic character from dipole moment and electronegativity difference.
48. *Metallic Bond*: Qualitative idea of valence bond
49. Band theories.
50. Semiconductors and insulators,

51. Defects in solids.
52. *Weak Chemical Forces*: van der Waals forces, ion-dipole forces, dipole-dipole interactions
53. Induced dipole interactions, Instantaneous dipole-induced dipole interactions
54. Hydrogen bonding (theories of hydrogen bonding, valence bond treatment).
55. **Unit IV: Oxidation-Reduction:** Redox equations
56. Standard Electrode Potential and its application to inorganic reactions.
57. Principles involved in volumetric analysis

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Name of the Teacher-Neelakshi Hazarika

Course –Honours / Generic – Generic

Class/Semester- 1st Semester CBCS

Name of the Paper-Atomic Structure, Bonding, General Organic Chemistry and Aliphatic Hydrocarbons

Units Assigned- Section A: Inorganic Chemistry (Unit : I, II)

Marks Assigned- 26

Class	Topic/ Unit	Remarks
1.	Unit I: Atomic Structure Review of: Bohr's theory and its limitations	
2.	Dual behaviour of matter and radiation: de-Broglie's relation, Heisenberg Uncertainty principle.	
3.	Hydrogen atom spectra. Need of a new approach to Atomic structure	
4.	Quantum mechanics, Time independent Schrodinger equation and meaning of various terms in it.	
5.	Significance of Ψ and Ψ^2 .	
6.	Schrödinger equation for hydrogen atom	
7.	Radial and angular parts of the hydrogenic wave functions (atomic orbitals) and their variations for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation).	

8. Radial and angular nodes and their significance.
9. Radial distribution functions and the concept of the most probable distance with special reference to 1s and 2s atomic orbitals.
10. Significance of quantum numbers
11. Orbital angular momentum and quantum numbers m_l and m_s .
12. Shapes of s, p and d atomic orbitals, nodal planes
13. Discovery of spin, spin quantum number (s) and magnetic spin quantum number (m_s).
14. Rules for filling electrons in various orbitals, Electronic configurations of the atoms.
15. Stability of half-filled and completely filled orbitals, concept of exchange energy.
16. Relative energies of atomic orbitals, Anomalous electronic configurations
17. Unit II: Chemical Bonding and Molecular Structure
Ionic Bonding: General characteristics of ionic bonding.
18. Energy considerations in ionic bonding, lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds.
19. Statement of Born-Landé equation for calculation of lattice energy,
20. Born-Haber cycle and its applications,
21. Polarizing power and polarizability
22. Fajan's rules, ionic character in covalent compounds,
23. Bond moment, dipole moment and percentage ionic character.
24. Covalent bonding: VB Approach
25. Shapes of some inorganic molecules and ions on the basis of VSEPR and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements.
26. Concept of resonance and resonating structures in various inorganic and organic compounds.
27. MO Approach: Rules for the LCAO method, bonding and antibonding MOs and their characteristics for s-s, s-p and p-p combinations of atomic orbitals, nonbonding combination of orbitals
28. MO treatment of homonuclear diatomic molecules of 1st and 2nd periods (including idea of s-p mixing) and heteronuclear diatomic molecules such as CO, NO and NO^+
29. Comparison of VB and MO approaches.

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Name of the Teacher- NEELAKSHI HAZARIKA

Course –Honours / Generic – HONOURS

Class/Semester- 3rd Semester, CBCS

Name of the Paper- Inorganic Chemistry

Units Assigned- All

Marks Assigned- 53

Class	Topic/ Unit	Remarks
1.	Unit I: General Principles of Metallurgy: Chief modes of occurrence of metals based on standard electrode potentials.	
2.	Ellingham diagrams for reduction of metal oxides using carbon and carbon monoxide as reducing agent.	
3.	Electrolytic Reduction,	
4.	Hydrometallurgy.	
5.	Methods of purification of metals: Electrolytic Kroll process,	
6.	Parting process, van Arkel-de Boer process	
7.	Mond's process, Zone refining	
8.	Unit II: Acids and Bases: Brönsted-Lowry concept of acid-base reactions, solvated proton.	
9.	relative strength of acids, types of acid-base reactions,	
10.	levelling solvents	
11.	Lewis acid-base concept,	
12.	Classification of Lewis acids,	
13.	Hard and Soft Acids and Bases (HSAB) Application of HSAB principle	
14.	Unit III: Chemistry of s and p Block Elements: Inert pair effect, Relative stability of different oxidation states	
15.	Diagonal relationship and anomalous behaviour of first member of each group. Allotropy and catenation.	
16.	Complex formation tendency of s and p block elements.	
17.	Study of the following compounds with emphasis on structure, bonding, preparation, properties and uses of Boric acid and borates	
18.	Boron nitrides,	
19.	Borohydrides (diborane),	
20.	Silanes	
21.	Carboranes and graphitic compounds	

22. Oxides and oxoacids of nitrogen, Phosphorus and chlorine.
23. Peroxoacids of sulphur, interhalogen compounds,
24. Polyhalide ions, pseudohalogens and basic properties of halogens.
25. **Unit IV: Noble gases** :Occurrence and uses
26. Rationalization of inertness of noble gases
27. Clathrates; preparation and properties of XeF_2 , XeF_4 and XeF_6 ;
28. Nature of bonding in noble gas compounds (Valence bond treatment and MO treatment for XeF_2).
29. Molecular shapes of noble gas compounds (VSEPR theory).
30. **Unit V: Inorganic Polymers:** Types of inorganic polymers, comparison with organic polymers
31. Synthesis, structural aspects and applications of silicones
32. Siloxanes.
33. Borazines
34. Silicates.
35. Phosphazenes
36. Polysulphates

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Name of the Teacher-NEELAKSHI HAZARIKA

Course –Honours / Generic – Honours

Class/Semester- 5th Semester, CBCS

Name of the Paper- Physical Chemistry, C-501

Units Assigned- II

Marks Assigned- 12

Class	Topic/ Unit	Remarks
1.	Unit II: Molecular Spectroscopy Interaction of electromagnetic radiation with molecules and various types of spectra	
2.	Vibrational spectroscopy: Classical equation of vibration	
3.	Computation of force constant	
4.	Amplitude of diatomic molecular vibrations,	
5.	Numericals	
6.	Anharmonicity	
7.	Morse potential, dissociation energies,	

8. Fundamental frequencies
9. Overtones
10. Hot bands
11. Numericals
12. Degrees of freedom for polyatomic molecules
13. Modes of vibration of various molecules
14. Concept of group frequencies.
15. Vibration-rotation spectroscopy: diatomic vibrating rotator,
16. P, Q, R branches.
17. cContour diagram for HCl for various selection rules
18. Nuclear Magnetic Resonance (NMR) spectroscopy:
Principles of NMR spectroscopy
19. Larmor precession, chemical shift
20. low resolution spectra,
21. Different scales of nmr spectra
22. spin-spin coupling
23. Spectra of different organic molecules

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Name of the Teacher-NEELAKSHI HAZARIKA

Course –Honours / Generic – Honours

Class/Semester- 5th Semester, CBCS

Name of the Paper- DSE-501, Analytical Methods in Chemistry

Units Assigned- I, II, III, V

Marks Assigned- 23

Class	Topic/ Unit	Remarks
1.	Unit I: Qualitative and quantitative aspects of analysis Sampling, evaluation of analytical data	
2.	Different types of errors,Mathematical expressions.	
3.	Minimisation of errors, Numericals	
4.	accuracy and precision,	
5.	Mean deviations, Standard deviations, Coefficient of variation	
6.	Numericals	
7.	normal law of distribution if indeterminate errors,	
8.	statistical test of data; F test,	
9.	statistical test of data; Q test, rejection of data, and	

confidence intervals

10. statistical test of data; t test,
11. rejection of data,
12. confidence intervals, confidence limit
13. Unit II: UV-Visible and IR Spectrometry Infrared Spectrometry: Basic principles of instrumentation
14. choice of source in IR instrument
15. Monochromator & detector for single beam instrument;
16. Monochromator & detector for double beam instrument;
17. sampling techniques in IR
18. Structural illustration through interpretation of data,
19. Structural illustration through interpretation of data,
20. Effect and importance of isotope substitution.
21. Unit III: Thermal Methods of analysis:
Theory of thermo-gravimetry (TG),
22. Basic principle of instrumentation
23. Techniques for quantitative estimation of Ca and Mg from their mixture.
24. Applications of TGA
25. Unit V: Separation techniques Chromatography:
Classification, principle and efficiency of the technique.
26. Adsorption chromatography
27. partition chromatography
28. Ion exchange chromatography.
29. Different types of paper chromatography
30. Development of chromatograms: frontal, elution and displacement methods.
31. Qualitative and quantitative aspects of TLC
32. HPLC.

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Major**

Class/Semester: **5th Semester**

Name of the Paper: **MM-505**

Units Assigned: **I + III**

Marks Assigned: **8 + 10**

Class	Topic	Remarks

Unit I: Pericyclic reactions

1. Definition of pericyclic reaction
2. The conservation of orbital symmetry
3. Woodward-Hofmann Rules
4. HOMO-LUMO approach
5. (2+2) and (2+4) cycloadditions
6. Diels Alder Reaction
7. 1,3- dipolar cycloaddition
8. Sigma tropic rearrangements -Cope rearrangement
9. Sigma tropic rearrangements -Claisen rearrangement
10. Electrocyclic reactions

Unit III: Nucleic acids & Enzymes

1. Components of Nucleic acids
2. Nucleosides and Nucleotides
3. Structure Synthesis and Reactions of Adenine and Guanine
4. Structure Synthesis and Reactions of Cytosine, Uracil & Thymine.
5. Structure of DNA (Watson– Crick Model)
6. Structure of RNA, Genetic code
7. Biological roles of DNA and RNA
8. Replication
9. Transcription and Translation (elementary idea only)
10. Classifications of enzyme and active site
11. Specificity, Mechanism of Enzyme action
12. Co-enzyme, Application of Enzymes

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Major**

Class/Semester: **6th Semester**

Name of the Paper: **MM-605**

Units Assigned: **I + II + V**

Marks Assigned: **10 + 10 + 10**

Class	Topic	Remarks

Unit I: Disconnection approach in organic synthesis

1. Elementary idea about disconnection
2. Functional group interchange (FGI)
3. Functional group addition (FGA)
4. Synthon and synthetic equivalent
5. Simple examples of retrosynthesis of C-C bond formation by using Corey House reaction
6. Simple examples of retrosynthesis of C-C bond formation by using Grignard reaction
7. Simple examples of retrosynthesis of C-C bond formation by using aldol condensation
8. Retrosynthesis of monofunctionalised compounds

Unit II: Applications of UV, IR and NMR spectroscopy

1. Application of Woodward rules for calculation of λ_{max}
2. α, β -unsaturated aldehydes, ketones
3. Application in functional group analysis by IR
4. Anisotropic Effects in Alkenes
5. Anisotropic Effects in Alkynes
6. Anisotropic Effects in carbonyl compounds and benzene

7. Study of simple NMR spectra
8. Applications of IR, NMR and UV in Structural Identification of Simple Organic Molecules

Unit V: Polymers

1. Types of polymers- Isotactic, syndiotactic and atactic polymers
2. Urea-formaldehyde polymers
3. Phenol- formaldehyde polymers
4. Polyurethanes and thermo softening (PVC, Polythene)
5. polymer additives
6. Synthetic fibers: Rayon, Nylon-6 and terylene
7. Fabrics- natural and synthetic (acrylic, polyamido, polyester)
8. Rubbers-natural and synthetic: Buna-S, chloroprene and neoprene
9. Vulcanization

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher: **Dr. BishwajitSaikia**

Course: **Non-Major**

Class/Semester: **6^hSemester**

Name of the Paper: **NM-601**

Units Assigned: **I + II + III**

Marks Assigned: **4 + 5 + 7**

Class	Topic	Remarks

Unit I: Active Methylene Compounds

1. Synthesis of ethylacetoacetate (Claisen ester condensation)

2. Diethylmalonate
3. Synthetic uses of ethylacetoacetate
4. Synthetic uses of diethylmalonate
5. Keto – enol Tautomerism

Unit II: Preparation, properties and reaction of the following Organic Compounds

1. Lactic and Tartaric acids
2. Oxalic, Malonic
3. Succinic and Phthalic acid
4. Citric acid
5. Acrolein, Crotonaldehyde
6. Cinnamaldehyde, Acrylic acid
7. Crotonic acid, Maleic acid and Fumaric acid

Unit III: Preparation, properties and reaction of the following Organic Compounds

1. Benzene sulphonic acid, nitro sulphonic acid
2. Amino sulphonic acid, sulphonyl chloride
3. Saccharin, chloramines-T
4. Nitrobenzene, Dinitrobenzene
5. Nitro toluene, TNT
6. Reduction of nitro compounds in different conditions
7. Preparation and properties of five and six membered heterocyclic compounds: pyrrole
8. Thiophene, furan
9. Pyridine
10. Preparation and properties of $\alpha\beta$ -Naphthalene and anthracene

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Generic**

Class/Semester: **1st Semester**

Name of the Paper: **GE-101 (Section B)**

Units Assigned: **IV**

Marks Assigned: **10**

Class	Topic	Remarks

Unit IV: Stereochemistry

1. Conformation of ethane
2. Conformation of butane
3. Conformation of cyclohexane
4. Interconversion of wedge to Newmann projection
5. Interconversion of Newman to Sawhorse and Fischer projection
6. Geometrical and optical isomerism
7. Enantiomerism and diastereoisomerism
8. Threo and Erythro and Cis and Trans isomerism
9. CIP rule for R/S nomenclature
10. CIP rule for E/Z nomenclature

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Honours**

Class/Semester: **2nd Semester**

Name of the Paper: **C-201**

Units Assigned: **I + II**

Marks Assigned: **8 + 12**

Class	Topic	Remarks

Unit I: Basic Organic Chemistry

1. Classification and Nomenclature, Hybridization
2. Inductive effect, electromeric effect and their applications
3. Resonance, hyperconjugation and their applications
4. Dipole moment, Organic acids and bases
5. Hard acids/bases soft acid/base
6. Homolytic and heterolytic fission, curly arrow rule, formal charge
7. Electrophiles and nucleophiles
8. Nucleophilicity and basicity
9. Carbocation, Carbanion
10. Free radicals, carbene
11. Energy profile diagram of single, two and three step reactions
12. Activation energy, thermodynamically and kinetically controlled reactions

Unit II: Stereochemistry

1. Fischer and sawhorse projection formula and their interconversions
2. Newmann and sawhorse projection formula and their interconversions
3. Geometrical isomerism and their properties
4. Cis/trans and syn/anti isomerism
5. CIP rule for E/Z notation
6. Optical activity, specific rotation, chirality/asymmetry
7. Enantiomers with examples and their properties
8. Diastereoisomers with examples and their properties

9. Meso compounds and Epimers
10. Racemic mixture and resolution
11. Threo and Erythro forms
12. Relative and absolute configurations
13. D/L designation
14. R/S designation

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Generic**

Class/Semester: **2nd Semester (Section B: Organic Chemistry)**

Name of the Paper: **GE-201**

Units Assigned: **IV + V**

Marks Assigned: **8 + 8**

Class	Topic	Remarks

Unit IV: Aromatic Hydrocarbons

1. Preparation of benzene from phenol
2. Preparation of benzene by decarboxylation, from acetylene
3. Preparation of benzene from benzene sulphonic acid.
4. Nitration
5. Halogenation
6. Sulphonation
7. Friedel-Craft's reaction (alkylation and acylation)
8. Side chain oxidation of alkyl benzenes

Unit V: Alkyl and Aryl Halides

1. SN1, SN2 and SNi

2. Preparation: from alkenes and alcohols
3. Hydrolysis reaction
4. Nitrite & nitro formation
5. Nitrile & isonitrile formation
6. Williamson's ether synthesis
7. Elimination vs substitution
8. Preparation of aryl halide from benzene
9. Sandmeyer & Gattermann reactions, Aromatic nucleophilic substitution (replacement by $-\text{OH}$ group) and effect of nitro substituent
10. Benzyne Mechanism: KNH_2/NH_3 (or $\text{NaNH}_2/\text{NH}_3$). Reactivity and Relative strength of C-Halogen bond in alkyl, allyl, benzyl, vinyl and aryl halides.

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Honours**

Class/Semester: **3rd Semester**

Name of the Paper: **C-302**

Units Assigned: **I + III + V**

Marks Assigned: **14 + 14 + 4**

Class	Topic	Remarks

Unit I: Chemistry of Halogenated hydrocarbons

1. Hunsdiecker reaction
2. $\text{S}_\text{N}1$ reactions and their mechanisms
3. $\text{S}_\text{N}2$ reactions and their mechanisms
4. $\text{S}_\text{N}i$ reactions and their mechanism

5. Nucleophilic substitution vs elimination reaction
6. Preparation of alkyl halide from diazonium salt
7. Nucleophilic aromatic substitution
8. Benzyne mechanism
9. Relative reactivity of alkyl, aryl, benzyl and vinyl halides towards nucleophilic substitution reaction
10. Organometallic compounds of Mg
11. Organometallic compounds of Li

Unit III: Carbonyl compounds

1. Nucleophilic addition and elimination reactions
2. Mechanisms of aldol and benzoin condensation
3. Mechanisms of Knoevenagel condensation, Claisen-Schmidt and Perkin reactions
4. Mechanism of Cannizzaro, Wittig and Beckmann reactions
5. Mechanism of Benzil-Benzilic acid rearrangements, haloform reaction and Baeyer Villiger oxidation
6. α -substitution reactions
7. Oxidations and reductions (Clemmensen, Wolff-Kishner)
8. LiAlH_4 , NaBH_4 , MPV
9. PDC, PCC, SeO_2
10. $\text{Pb}(\text{OAc})_4$ & HIO_4
11. Addition reactions of unsaturated carbonyl compounds: Michael addition
12. Unsaturated Aldehydes (Acrolein, Crotonaldehyde, Cinnamaldehyde)
13. Unsaturated Ketone (MVK)
14. Active methylene compounds: Keto-enol tautomerism
15. Preparation and synthetic applications of diethyl malonate

16. Preparation and synthetic applications of ethyl acetoacetate

Unit III: Sulphur containing compounds

1. Preparation and reactions of thiols
2. Preparation and reactions of thioethers
3. Preparation and reactions of sulphonic acids

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher: **Dr. BishwajitSaikia**

Course: **Generic**

Class/Semester: **3rdSemester**

Name of the Paper: **GE-301 (Section B: Organic Chemistry)**

Units Assigned: **V + VI**

Marks Assigned: **6 + 6**

Class	Topic	Remarks

Unit V: Carboxylic acids and their derivatives

1. Preparation of carboxylic acids (aliphatic and aromatic)
2. Acidic and Alkaline hydrolysis of esters
3. Hell – Vohlard - Zelinsky Reaction
4. Preparation of Carboxylic acid derivatives (aliphatic)
5. Acid chlorides, anhydrides, Esters and their interconversion
6. Amides from acids and their interconversion
7. Comparative study of nucleophilicity of acyl derivatives
8. Reformatsky Reaction, Perkin Condensation

Unit VI: Amines and Diazonium Salts

1. Gabriel's Phthalimide synthesis
2. Hofmann Bromamide reaction, Schotten – Baumann

Reaction

3. Hofmann vs. Saytzeff elimination, Carbylamine test, Hinsberg test, with HNO_2
4. Electrophilic substitution (case aniline): nitration, bromination, sulphonation
5. Diazonium salts: Preparation: from aromatic amines
6. Reactions: conversion to benzene, phenol, dyes

DIGBOI COLLEGE, DIGBOI Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Honours**

Class/Semester: **4th Semester**

Name of the Paper: **C-402**

Units Assigned: **I + II + V**

Marks Assigned: **14 + 12 + 6**

Class	Topic	Remarks
Unit I: Nitrogen Containing Functional Groups		
1.	Preparation and important reactions of nitro and compounds	
2.	Nitriles and isonitriles	
3.	Effect of substituent and solvent on basicity of amines	
4.	Gabriel phthalimide synthesis	
5.	Carbylamine reaction, Mannich reaction	
6.	Hoffmann's exhaustive methylation	
7.	Hofmann-elimination reaction	
8.	Distinction between 1°, 2° and 3° amines with Hinsberg reagent	

9. Distinction between 1°, 2° and 3° amines with nitrous acid
10. Preparation of diazonium salt
11. Synthetic applications of diazonium salt
12. Diazomethane
13. Diazoacetic Ester

Unit II: Polynuclear Aromatic Hydrocarbons

1. Preparation and structure elucidation of naphthalene
2. Reactions of naphthalene
3. Preparation and structure elucidation of phenanthrene
4. Reactions of phenanthrene
5. Preparation and structure elucidation of anthracene
6. Reactions of anthracene
7. Important derivatives of naphthalene
8. Important derivatives of anthracene

Unit V: Terpenes

1. Occurrence of terpenes
2. Classification of terpenes
3. Isoprene rule
4. Elucidation of structure and synthesis of Citral
5. Elucidation of structure and synthesis of Neral
6. Elucidation of structure and synthesis of α -terpeneol

DIGBOI COLLEGE, DIGBOI Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Honours**

Class/Semester: **5th Semester**

Name of the Paper: **C-501**

Units Assigned: **I + V + VI**

Marks Assigned: **8 + 10 + 10**

Class	Topic	Remarks

Unit I: Nucleic Acids

1. Components of nucleic acids, Nucleosides and nucleotides
2. Structure, synthesis and reactions of: Adenine, Guanine
3. Structure, synthesis and reactions of: Cytosine, Uracil and Thymine
4. Structure of polynucleotides
5. Structure of DNA (Watson & Model) and RNA
6. Genetic Code Biological role of DNA and RNA
7. Replication, Transcription
8. Translation

Unit V: Disconnection approach in Organic Synthesis

1. Elementary idea about disconnection,
2. Synthons and Synthetic equivalent
3. Functional group interconversion (FGI)
4. Functional group addition (FGA)
5. Simple examples of retrosynthesis of C-C bond formation by using Corey House reaction
6. Simple examples of retrosynthesis of C-C bond formation by using Grignard reaction
7. Simple examples of retrosynthesis of C-C bond formation by using aldol condensation
8. Retrosynthesis of monofunctionalised compounds
Retrosynthesis of Bi-functionalized compounds

Unit VI: Pharmaceutical Compounds: Structure and Importance

1. Classification, structure and therapeutic uses of antipyretics: Paracetamol and its synthesis
2. Analgesics: Ibuprofen (with synthesis), Antimalarials
3. Ranitidine, Providone-Iodine Solution
4. Synthesis and mode of action of Sulphanilamides and other Sulphadruugs (sulphapyridine, sulphathiazole)
5. Chloroquine (with synthesis)
6. An elementary treatment of Antibiotics and detailed study of chloramphenicol
7. Medicinal values of curcumin (haldi)
8. Medicinal values of azadirachtin (neem) and vitamin C

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher: **Dr. Bishwajit Saikia**

Course: **Honours**

Class/Semester: **5th Semester**

Name of the Paper: **DSE-502**

Units Assigned: **I + II**

Marks Assigned: **4 + 27**

Class	Topic	Remarks

Unit I: Introduction to Green Chemistry

1. What is Green Chemistry
2. Need for Green Chemistry
3. Goals of Green Chemistry
4. Limitations
5. Obstacles in the pursuit of the goals of Green Chemistry

Unit II: Principles of Green Chemistry and Designing a Chemical synthesis

1. Twelve principles of Green Chemistry
2. Explanations and examples and special emphasis of principles of Green chemistry
3. Prevention of Waste/ byproducts
4. Maximum incorporation of the materials used in the process into the final products
5. Atom Economy
6. Calculation of atom economy of the rearrangement
7. Calculation of atom economy of the addition reaction
8. Calculation of atom economy of the substitution reaction
9. Calculation of atom economy of the elimination reactions
10. Prevention/ minimization of hazardous/ toxic products reducing toxicity
11. Green solvents- supercritical fluids
12. Water as a solvent for organic reactions
13. Ionic liquids
14. Fluorous biphasic solvent
15. PEG, solventless processes
16. Immobilized solvents
17. How to compare greenness of solvents
18. Energy requirements for reactions- alternative sources of energy
19. Use of microwaves and ultrasonic energy
20. Selection of starting materials
21. Avoidance of unnecessary derivatization
22. Careful use of blocking/ protecting groups
23. Use of catalytic reagents (wherever possible) in preference to stoichiometric reagents

24. Catalysis and green chemistry
25. Comparison of heterogeneous and homogeneous catalysis
26. Prevention of chemical accidents designing greener processes
27. Inherent safer design
28. Principle of ISD “ What you don’t have cannot harm you
29. Greener alternative to Bhopal Gas Tragedy (safer route to carcarbaryl) and Flixiborough accident (safer route to cyclohexanol)
30. Subdivision of ISD
31. Minimization, simplification, substitution, moderation and limitation of ISD
32. Strengthening/ development of analytical techniques to prevent and minimize the generation of hazardous substances in chemical processes

DIGBOI COLLEGE, DIGBOI

Course Plan

June 2020 to December 2021

Name of the Teacher-Dr NAYAN JYOTI KHOUND

Course – Major (Non CBCS)

Class/Semester- 5th Semester

Name of the Paper- 501 (Physical Chemistry)

Units Assigned- I +IV + V

Marks Assigned- 15 + 07 + 08

Class	Topic	Remarks
Unit I: Chemical Kinetics		Marks
	Assigned- 15	
1.	Rate and rate law of a chemical reaction	
2.	Molecularity and order of chemical reactions,	

3. Elementary and complex reactions
4. differential and integral forms of rate equations of zero order, 1st order and 2nd order reactions, & half life periods
5. Determination of order of reaction by method of integration, half life period, differential method & isolation method,
6. Evaluation of rate constant by integrated equation method & graphical method, Guggenheim method (1st order reaction),
7. Rate equation of first order, opposite, parallel, consecutive reaction,
8. Rate equation of chain reactions, chain branching, explosion limit, hydrogen – bromine thermal reaction,
9. Effect of temperature on reaction velocities, Arrhenius equation, energy of activation,
10. Collision theory of bimolecular reactions, its limitation,
11. Activated complex theory, Eyring equation, Lindeman's theory of unimolecular gas phase reaction.
12. Question paper discussion

Unit IV: Surface Chemistry

Marks

Assigned- 07

- 1 Adsorption and types of adsorption
- 2 Physical and chemical adsorption of gases on solid surface
- 3 Adsorption isotherms & types of adsorption isotherm
- 4 Freundlich equation, Langmuir adsorption equation.
- 5 Gibbs adsorption equation
- 6 Determination of surface area of an adsorbent
- 7 Application of adsorption in chemical analysis and in industry,

Unit V: Colloidal State

Marks

Assigned- 08

- 1 Colloid and their properties
- 2 Electrical double layer and zeta potential, theory of stabilities of colloids,

- 3 Protective action of Lyophilic sol-gold number, Avogadro's number
- 4 Coagulation of colloids, Schultz – Hardy rule, association of colloids, emulsions
- 5 Micelles and their structure, critical micelles concentration, Donnan membrane equilibria

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr NAYAN JYOTI KHOUND

Course – Non Major (Non CBCS)

Class/Semester- 5th Semester

Name of the Paper- 501 (Physical Chemistry)

Units Assigned- I + III + IV

Marks Assigned- 05 + 05 + 04

Class	Topic	Remarks
Unit I: Conductance		Marks
	Assigned- 05	
1.	Specific, equivalent and molar conductivity	
2.	Their variation with dilution for weak and strong electrolytes.	
3.	Kohlrausch's law of independent migration of ions.	
4.	Transference number and its experimental determination using Hittorf and Moving boundary methods, Ionic mobility.	
5.	Applications of conductance measurements: determination of degree of ionization of weak electrolyte, solubility and solubility products of sparingly soluble salts,	
6.	Applications of conductance measurements: determination of degree of ionic product of water, hydrolysis constant of a	

salt, Conductometric titrations of acid - base

Unit III: Adsorption & Catalysts

Marks

Assigned- 05

- 1 Adsorption & types of adsorption.
- 2 Differences between chemisorptions and Physical adsorption
- 3 Freundlich adsorption isotherm and Langmuir adsorption isotherm, application of adsorption.
- 4 Catalysis & Types of catalysis, homogeneous & heterogeneous catalysis, acid-base catalysis, catalytic promoter, poisoning, negative catalysis ,
- 5 Enzyme catalysis characteristics of enzyme catalysis ,Theories of catalysis.

Unit IV: Phase rule

Marks

Assigned- 04

- 1 Statement of phase rule, definition of phase, components and degrees of freedom with examples
- 2 Application of phase rule
- 3 Phase diagram of water and sulphur system.
- 4 Phase diagram of Pb –Ag system.

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher-Dr. NAYAN JYOTI KHOUND

Course – Major (Non CBCS)

Class/Semester- 6th Semester

Name of the Paper- 601 (Physical Chemistry)

Units Assigned- II + III + IV

Marks Assigned- 08 + 08 + 12

Class	Topic	Remarks

Unit II: Macromolecules

Marks

Assigned- 08

1. Polymer and their classification
2. Step reaction polymerization & Addition polymerization,
3. Mechanism and kinetics of free radical polymerization,
4. Mechanism and kinetics anionic polymerization
5. Mechanism and kinetics of cationic polymerization
6. Weight and Number average molecular weight,
7. Viscometric and Osmometric methods of molecular weight determination,
8. Degree of polymerization & Carother equation,.
9. Zeigler Natta catalysts, Co-polymerisation
10. Question paper discussion

Unit III: Catalysis

Marks

Assigned- 08

- 1 Catalysis and its types
- 2 Criteria of catalysis, Autocatalysis & catalytic poison,
- 3 Homogeneous and heterogeneous catalysis,.
- 4 Acid – Base catalysis, Enzyme catalysis-mechanism, Michaelis-Menten equation
- 5 Effect of temperature on surface reactions, Effect of particle size and efficiency of nano particles as catalysts,

Unit IV: Phase Equilibria

Marks

Assigned- 12

- 1 Definition of phase components, degree of freedom
- 2 application of phase rule to one component-water and sulphur,
- 3 Phase diagram of simple eutic Pb-Ag, & KI-H₂O system

- 4 Phase diagram of two component systems with congruent melting point (Zn-Mg) system, Phase diagram of two component systems incongruent melting point ($\text{Na}_2\text{SO}_4\text{-H}_2\text{O}$) system
- 5 Interpretation of vapour pressure composition and temperature- composition phase diagram, Distillation of liquid mixtures and azeotropic mixture
- 6 Clapeyron equation, Clausius - Clapeyron equation, their derivation and application

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher- Dr NAYAN JYOTI KHOUND

Course – Honours (CBCS)

Class/Semester- First Semester

Name of the Paper- C-102 (Physical Chemistry)

Units Assigned- I + II

Marks Assigned- 18 + 08

Class	Topic	Remarks
Unit 1: Gaseous State		Marks
	Assigned- 18	
1.	Kinetic Theory of gases	
2.	Collision frequency, collision number, mean free path	
3.	Viscosity of gases and its pressure and temperature dependence	
4.	Maxwell distribution of velocities	
5.	Most probable velocity, average velocity, RMS velocity	
6.	Degree of freedom	
7.	Law of equipartition of energy	
8.	Deviation from ideal behaviour Cause of deviation	

9. Numerical and questions
10. Compressibility of factor Z
11. Vander Waal equation & Other equation of real gases
12. Boyle's temperature, Isotherm of real gases, Continuity of states
13. Critical state and Vander Waal constants, Reduced equation of states, Law of corresponding states
14. Viscosity of gases and effect of Pressure & Temperature on it
15. Previous year question paper solved

Unit 2: Liquid State

Marks

Assigned- 08

Class	Topic	Remarks
1.	Qualitative treatment of structure of liquid, Qualitative discussion of structure of water, Units and significance of physical properties of liquid	
2.	Vapour pressure and surface tension of liquid, Cleaning action of detergents	
3.	Coefficient of viscosity and effect of various solutes on it	
4.	Viscosity of liquid and comparison with gases	
5.	Previous year question paper discussion	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher-Dr NAYAN JYOTI KHOUND

Course – Honours (CBCS)

Class/Semester- 3rd Semester

Name of the Paper- C-303 (Physical Chemistry)

Units Assigned- I +II + III

Marks Assigned- 15 + 12 +12

Class	Topic	Remarks

Unit 1: Phase Equilibria

Marks

Assigned- 15

1. Phase Rule & Concept of phases, components & degree of freedom
2. Phase diagram of Water & Sulphur system
3. Phase diagram of Lead Silver system,
4. Phase diagram of Zinc Magnesium system,
5. Phase diagram of Sodium Sulphate Water system
6. Phase diagram of Sodium Sulphate Water system
7. Clausius Clayperon Rule
8. Previous year question paper discussion

Unit 2 Chemical Kinetics

Marks

Assigned- 12

- 1 Rate and Unit of a chemical Reaction
- 2 Order and Molecularity of a reaction
- 3 Differential and integrated form of Zero & 1st order reaction
- 4 Differential and integrated form of 2nd order reaction
- 5 Kinetics of Opposing reaction & Parallel & Consecutive reaction
- 6 Kinetics of Consecutive reaction
- 7 Steady state approximation and Chain Reactions
- 8 Discussion and problem/ question of the studied topic
- 9 Previous year question paper discussion

Unit 3: Catalysis

Marks

Assigned- 12

Class	Topic	Remarks

1. Definition and types of catalysts

2. Specificity and selectivity of catalysts
3. Effect of particle size and efficiency of nano particles as catalysts
4. Enzyme catalysis, Michaelis Menten catalysis
5. Acid base catalysis, question discussion

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr NAYAN JYOTI KHOUND

Course – Generic (CBCS)

Class/Semester- 3rd Semester

Name of the Paper- C-303 (Physical Chemistry)

Units Assigned- II + III

Marks Assigned- 06 + 06

Class	Topic	Remarks
Unit 2: Phase Equilibria		Marks
	Assigned- 6	
1.	Phases, components and degrees of freedom of a system, application	
2.	Gibbs Phase Rule and its thermodynamic deviation.	
3.	Phase diagrams of water and sulphur system	
4.	Phase diagram of lead –silver & FeCl ₃ -H ₂ O system	
5.	Phase diagram of Na-K only system, question discussion	
Unit 3: Conductance		Marks
	Assigned- 6	
1	Conductivity, equivalent and molar conductivity	
2	Their variation with dilution for weak and strong electrolytes.	
3	Kohlrausch's law of independent migration of ions.	

- 4 Transference number and its experimental determination using Hittorf and Moving boundary methods.
- Applications of conductance measurements (i) determination of degree
- 5 of ionization of weak electrolyte, (ii) solubility and solubility products of sparingly soluble salts,
- 6 (iii) determination of degree of ionic product of water & (iv) hydrolysis constant of a salt.
- 7 (v) Conductometric titrations of acid - base

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher- Dr NAYAN JYOTI KHOUND

Course – Honours (CBCS)

Class/Semester- 5th Semester

Name of the Paper- C-502 (Physical Chemistry)

Units Assigned- III

Marks Assigned- 11

Class	Topic	Remarks
Unit 3: Photochemistry	Assigned- 11	Marks
1.	Characteristics of electromagnetic radiation	
2.	Lambert – Beer's law and its limitations	
3.	Physical significance of absorption coefficients	
4.	Laws of photochemistry, low and high quantum yield	
5.	Actinometry	
6.	Photochemical equilibrium	
7.	Differential rate of photochemical reaction	
8.	Photosensitized reaction	

9. Quenching
10. Photochemical reaction in biochemical processes
11. Photo stationary states
12. Chemiluminescence

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher-Dr NAYAN JYOTI KHOUND

Course – Honours (CBCS)

Class/Semester- 5th Semester

Name of the Paper- C-DSE 501 (Analytical Methods in Chemistry)

Units Assigned- I +II + III

Marks Assigned- 20 + 08 +10

Class	Topic	Remarks
Unit 1: UV Visible and IR spectrometry		Marks
Assigned- 20		
1.	Origin of spectra, interaction of radiation with matter, Fundamental laws of spectroscopy and selection rules, Beer-Lambert's law and its validity	
2.	UV-Visible Spectrometry: source, monochromator and detector for single and double beam instrument	
3.	Geometrical isomers, Keto-enol tautomers.	
4.	Determination of composition of metal complexes using Job's method of continuous variation and mole ratio method.	
5.	Flame Atomic Absorption and Emission Spectrometry: source, monochromator, detector, choice of flame and Burner designs.	
6.	Techniques of atomization and sample introduction,	
7.	Sources of chemical interferences and their method of removal, Techniques for the quantitative estimation of trace	

level of metal ions from water samples.

8. Question paper discussion

Unit 4 Electro-analytical methods

Marks

Assigned- 08

- 1 Electro-analytical methods,
- 2 Classification of electro-analytical methods,
- 3 basic principle of pH metric titration
- 4 basic principle of potentiometric & conductometric titration.
- 5 Techniques used for the determination of equivalence points.
- 6 Techniques used for the determination of pKa values.

Unit 5: Separation Techniques

Marks

Assigned- 10

Class	Topic	Remarks
1.	Solvent extraction & Classification,	
2.	Solvent extraction: principle and efficiency of the technique.	
3.	Mechanism of extraction: extraction by solvation and chelation.	
4.	Technique of extraction: batch, continuous and counter current extractions.	
5.	Qualitative and quantitative aspects of solvent extraction, Extraction of metal ions from aqueous solution,	
6.	Extraction of organic species from the aqueous and non-aqueous media.	
10	Question discussion	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr NAYAN JYOTI KHOUND

Course – Honours (CBCS)

Class/Semester- 2nd Semester

Name of the Paper- C-202 (Physical Chemistry)

Units Assigned- I +II + III

Marks Assigned- 26 + 06

Class	Topic	Remarks
	Unit 1: Chemical Thermodynamics	Marks
	Assigned- 26	
1.	Introduction to Thermodynamics	
2	Intensive and extensive variables; State and Path functions; Zeroth law of thermodynamics.	
3	Statement of first law; Concept of heat, q, work, w, internal energy, U, Enthalpy, H, relation between heat capacities	
4	Calculations of q, w, U and H for reversible, irreversible and free expansion of gases (ideal and van der Waals) under isothermal condition	
5	Calculations of q, w, U and H for reversible, irreversible and free expansion of gases (ideal and van der Waals) under adiabatic condition	
6	Thermo chemistry: Heats of reactions, Standard states; enthalpy of formation of molecules	
7	Bond energy, bond dissociation energy and resonance energy & their calculation from thermo chemical data	
8	Adiabatic flame temperature & explosion temperature.	
9	Concept of entropy; thermodynamic scale of temperature,	
10	Statement of the second law of thermodynamics;	
11	Molecular and statistical interpretation of entropy.	

- 12 Calculation of entropy change for reversible and irreversible processes.
- 13 Statement of third law, Concept of residual entropy,
- 14 Gibbs and Helmholtz energy;
- 15 Variation of S, G, A with T, V, P
- 16 Joule-Thomson coefficient
- 17 Question discussion

Unit 2: Systems of Variable Composition
Assigned- 06

Marks

- 1 Partial molar quantities,
- 2 Dependence of thermodynamic parameters on composition
- 3 Gibbs- Duhem equation,
- 4 Chemical potential of ideal mixtures,
- 5 Question and problems discussion

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher-Dr NAYAN JYOTI KHOUND

Course – Generic (CBCS)

Class/Semester- 2nd Semester

Name of the Paper- C-201 (Physical Chemistry)

Units Assigned- I

Marks Assigned- 10

Class	Topic	Remarks
Unit 1: Chemical Energetics Assigned- 10		Marks
1.	Review of thermodynamics	
2.	System and Functions of thermodynamics	

3. Laws of Thermodynamics.
4. Laws of Thermodynamics.
5. Important principles and definitions of thermochemistry.
6. Concept of standard state
7. Standard enthalpies of formations, integral and differential enthalpies of solution and dilution.
8. Bond energy, bond dissociation energy and resonance energy
9. Calculation of bond energy, bond dissociation energy and resonance energy from thermo chemical data.
10. Variation of enthalpy of a reaction with temperature– Kirchhoff's equation.
11. Question paper discussion

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher- Dr NAYAN JYOTI KHOUND

Course – Honours (CBCS)

Class/Semester- 4th Semester

Name of the Paper- C-403 (Physical Chemistry)

Units Assigned- I

Marks Assigned- 22

Class	Topic	Remarks
Unit 1: Conductance	Assigned- 22	Marks
1.	Arrhenius theory of electrolytic dissociation.	
2.	Conductivity, equivalent and molar conductivity	
3.	Their variation with dilution for weak and strong electrolytes.	

4. Molar conductivity at infinite dilution.
5. Kohlrausch law of independent migration of ions.
6. Debye-Huckel-Onsager equation,
7. Wien effect, Debye-Falkenhagen effect,
8. Walden's rules.
9. Ionic velocities, mobilities and their determinations,
10. Transference numbers and their relation to ionic mobilities,
11. Determination of transference numbers using Hittorf method
12. Determination of transference numbers using Moving Boundary methods.
13. Applications of conductance measurement:
 - (i) degree of dissociation of weak electrolytes,
 - (ii) ionic product of water
 - (iii) solubility and solubility product of sparingly soluble salts,
 - (iv) conductometric titrations,
 - (iv) conductometric titrations,
 - & (v) hydrolysis constants of salts.
19. Numerical
20. Question paper discussion

DIGBOI COLLEGE, DIGBOI
Course Plan

Name of the Teacher- Dr NAYAN JYOTI KHOUND

Course – Generic (CBCS)

Class/Semester- 4th Semester

Name of the Paper- C-401 (Physical Chemistry)

Units Assigned- I (Section B)

Marks Assigned- 08 + 06

Class	Topic	Remarks

Unit 1: Kinetic Theory of Gases		

		Marks

Assigned- 08		

1.	Kinetic Theory of Gases: Postulates of Kinetic Theory of Gases and derivation of the kinetic gas equation.	
2.	Deviation of real gases from ideal behaviour, compressibility factor, causes of deviation.	
3.	Van der Waals equation of state for real gases. Boyle temperature	
4.	Critical phenomena, critical constants and their calculation from Van der Waals equation, Andrews isotherms of CO ₂	
5.	Maxwell Boltzmann distribution laws of molecular velocities and molecular energies and their importance, Collision number and mean free path of molecules.	
6.	Temperature dependence of these distributions. Most probable, average and root mean square velocities.	
7.	Viscosity of gases, effect of temperature & pressure on coefficient of viscosity	
8.	Questions paper discussion	

Unit 2: Liquids		

		Marks

Assigned- 06		

1	Liquid and its physical properties	
2	Surface tension and its determination using stalagmometer.	
3	Viscosity of a liquid and determination of coefficient of viscosity using Ostwald viscometer.	
4	Effect of temperature on surface tension & viscosity of a	

liquid

5 Questions paper discussion

DIGBOI COLLEGE, DIGBOI
Course Plan (June 20 to Dec 20)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –HONOURS

Class/Semester-FIRST

Name of the Paper-C-102-PYSICAL CHEMISTRY

Units Assigned- III and IV

Marks Assigned- 26

	Topic/ Unit	Remarks
Class		
	UNIT-III :SOLID	
1	Introduction to solid states, Idea of lattice crystal,unit cell,crystal system etc	
2.	Seven crystal system and Bravais lattices	
3	Laws of crystallography, law of constancy of interfacial angle	
4	concept of symmetry. Law of rational indices miller indices,	
5.	Elements of symmetry, cubic system , point group	
6	Revision and space group .	
7	X-ray crystallography, Bragg's Law	
8.	Rotating crystal method and Powder methods	
9.	Numerical and question answer discussion	
10.	Structure of crystal, ,idea of voids in f.c.c system, structure of ionic crystals	
11.	Defects in crystals, glasses	
12.	Liquid crystals	
	UNIT –IV:IONIC EQUILIBRIUM	
	Introduction to different types of electrolytes, dissociation of strong and weak electrolytes.	
14.	Degree of ionisation, degree of dissociation, Dissociation constant, pH	
15.	Ostwald's dilution law, Calculation of pH of weak electrolytes	

16. Ionic product of water, pH scale, common ion effect, numerical
17. Exact treatment of strong acids, pH of strong acids
18. Hydrolysis of salts, acidic and basic nature of salts, degree of hydrolysis
19. Hydrolysis constant, Expression of pH
20. Numerical of hydrolysis, Introduction to buffer solution
21. Mechanism, pH, buffer capacity
22. Application of buffer ,numerical
23. Solubility and solubility product, numerical
24. Application of solubility product in analysis.
25. Acid base titration and titration curves, Indicators
26. Theory and choice of indicators.

DIGBOI COLLEGE, DIGBOI
Course Plan (June 20 to Dec 20)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –HONOURS

Class/Semester-THIRD

Name of the Paper-C-7-PYSICAL CHEMISTRY

Units Assigned- III and IV

Marks Assigned- 20

CLASS	TOPIC/UNIT	REMARKS
	UNIT: I Phase equilibria (Binary Solution)	
1.	Introduction , Different types of binary solution, thermodynamics of binary solution	
2.	Gibb's Duhem Margules equation, Raoult's Law ideal and non ideal solution, vapour pressure composition diagram	
3.	Boiling point vs composition diagram ,Fractional distillation	
4.	Azeotropes and distillation, Lever rule,	
5.	Partial miscibility of binary liquid CST	
6.	Nernst's distribution law, thermodynamic derivation, limitation and application	

7. Steam distillation, revision

Unit: I :Phase equilibria

8. Three component system, Triangular plot

Unit: II :Chemical kinetics

9. Collision Theory

10. Absolute reaction rate

DIGBOI COLLEGE, DIGBOI

Course Plan (June 20 to Dec 20)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –GENERIC

Class/Semester-THIRD

Name of the Paper-Ge-301-PYSICAL CHEMISTRY

Units Assigned- III and IV

Marks Assigned- 14

CLASS	TOPIC/UNIT	REMARKS
UNIT:I-SOLUTION		
1	Ideal and non ideal solution, thermodynamics of ideal and non ideal solution	
2	VP vs Composition diagram, B.Pt. vs composition diagram, fractional distillation	
3	Azeotropes, Distillation	
4.	Partial miscibility of binary liquid, CST,UCST,LCST	
5	Immiscible liquid pair Nernst distribution law, application	
6.	Steam distillation, Solvent extraction	
7.	Solvent extraction	
8.	Revision ,Question Answer discussion	
UNIT:IV :Electrochemical Cell		
9.	Definition of reversible and irreversible cells ,concept of EMF and electrode potential, Electrochemical cell .	
10.	Nernst's equation ,cell potential, thermodynamics of ECC	
11.	Numerical on cell potential, Eq. constant, free energy, entropy enthalpy etc.	

12. Hydrogen Electrode ,Quinhydrone electrode, Single electrodes EMF of cell,
13. pH determination using hydrogen and quinhydrone electrodes
14. Liquid Junction Potential, Concentration cell, Concentration cell without transference
15. Concentration cell with transference
16. Revision.

DIGBOI COLLEGE, DIGBOI
Course Plan (June 20 to Dec 20)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –Non Major

Class/Semester-FIFTH

Name of the Paper-Ge-301-PYSICAL CHEMISTRY

Units Assigned- II ,V,VI

Marks Assigned- 18

CLASS	TOPIC/UNIT	REMARKS
UNIT:IV		
1	Introduction to photochemistry, quantum concept, Different types of photochemical reactions,	
2	Laws of photo chemistry, concept of Einstein, Numericals, Quantum Yield	
3	Reasons of low and high quantum yield, Determination of QY, Photosensitised reaction	
4.	Spin multiplicity, Fluorescence, Phosphorescence, Chemiluminescence	
5	Numerical, revision	
UNIT:II: Electrochemical cell		
6.	Definition of reversible and irreversible cells ,concept of EMF and electrode potential, Electrochemical cell	
7.	Nernst's equation , cell potential, thermodynamics of ECC	
8.	Numerical on cell potential, Eq. constant, free energy, entropy enthalpy etc.	

9. Hydrogen Electrode, Quinhydrone electrode, Single electrodes EMF of cell
10. pH determination using hydrogen and quinhydrone electrodes
11. Commercial application of galvanic cell, Dry cells, fuel cells lead accumulator, Revision

UNIT:COLLOIDS:

- 12 Introduction and definition of colloids,Different types of colloids
- 13 Lyophobic and lyophilic colloids, Preparation and properties of colloids
- 14 Stability, Coagulation and peptisation, Schultz-Hardy rule Protective colloids
- 15 Gold number, Electrophoresis, Electrokinetic phenomenon
- 16 Emulsion surfactants, micelle,CMC,
- 17 Question answer discussion, Revision

DIGBOI COLLEGE, DIGBOI
Course Plan (June 20 to Dec 20)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –MAJOR

Class/Semester-FIFTH

Name of the Paper--501-M-PYSICAL CHEMISTRY

Units Assigned- II, III

Marks Assigned: 18

CLASS	TOPIC/UNIT	REMARKS
UNIT:III: SYSTEM OF VARIABLE COMPOSITION		
1	Thermodynamics-Revision, Partial molar quantities, chemical potential ,	
2.	Gibb's Duhem Equation, Effect of Temperature and Pressure , Duhem Margules equation	
3.	Concept of activity, activity coefficient, fugacity, chemical equilibrium	
4	Equilibrium constant, Van't Hoff equation	

5. Le Chatelier Principle, application
6. Revision, question answer discussion

UNIT:II :SOLUTION AND COLLIGATIVE PROPERTIES

- 7 Definition of solution and dilute solution, Vapour solution, Raoult's Law ,Henry's Law
- 8 Colligative properties, Thermodynamics. Derivation of relative lowering of vapour pressure
9. Elevation of boiling point
10. Depression of freezing point
11. Osmotic pressure, van't Hoff factor
- 12 Calculation of molar masses in case of association and dissociation,numericals
13. Relation between the colligative properties
14. Immiscible liquids, Nernst's distribution Law, Application
15. Solvent extraction, Question answer discussion.

DIGBOI COLLEGE, DIGBOI Course Plan (June 20 to Dec 20)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –MAJOR

Class/Semester-FIFTH

MARKS : 33

Name of the Paper—507 : SYMMETRY AND QUANTUM CHEMISTRY

CLASS	TOPIC/UNIT	REMARKS

UNIT:II:QUANTUM CHEMISTRY:

1	Introduction: EMR, wavelength, frequency,spectra	
2	Black body radiation,Planck's hypothesis,Photoelectric effect,de Broglie	
3	Heisenberg uncertainty principle,concept of wave function,Schrodinger wave equation	
4	Normalised and orthogonal wave function,interpretation of wave function	

5. Expectation values ,postulate of quantum mechanics,Numericals
6. Particle in one dimensional box,Normalized wave functions and allowed energy levels
7. Particle in three dimensional box ,Energy levels
8. Solution of Schrodinger equation for rigid rotator
9. Solution of Schrodinger equation for harmonic oscillator
10. Solution of Schrodinger equation for H atom.Quantum numbers
11. Probability distribution,Shapes of S orbitals and p orbitals
12. Stern Gerlach experiment,Pauli's Exclusion principle
13. H like wave function,Numerical
14. Introduction to chemical bonding,VBT and MOT
15. MO treatment of hydrogen molecule ion,
16. MO of H₂,VBT of hydrogen molecule ,
17. Comparison of VBT and MO
18. Localised and non localized MO of homonuclear and heteronuclear molecule.

DIGBOI COLLEGE, DIGBOI
Course Plan (June 21 to Dec 21)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –HONOURS

Class/Semester-FIRST

Name of the Paper-C-102-PYSICAL CHEMISTRY

Units Assigned- III and IV

Marks Assigned- 26

Class	Topic/ Unit	Remarks
UNIT-III :SOLID		

- 1 Introduction to solid states, Idea of lattice crystal, unit cell, crystal system etc
2. Seven crystal system and Bravies lattices
- 3 Laws of crystallography, law of constancy of interfacial angle
- 4 Concept of symmetry. Law of rational indices miller
5. Elements of symmetry, cubic system, point group indices,
- 6 Revision and space group .
- 7 X-ray crystallography, Bragg's Law
8. Rotating crystal method and Powder methods
9. Numericals and question answer discussion
10. Structure of crystal, idea of voids in fcc system, structure of ionic crystals
11. Defects in crystals, glasses
12. Liquid crystals

UNIT –IV: IONIC EQUILIBRIUM

- Introduction to different types of electrolytes, dissociation of strong and weak electrolytes.
14. Degree of ionisation, degree of dissociation, Dissociation constant, pH
 15. Ostwald's dilution law, Calculation of pH of weak electrolytes
 16. Ionic product of water , pH scale, common ion effect, numericals
 17. Exact treatment of strong acids, pH of strong acids
 18. Hydrolysis of salts, acidic and basic nature of salts, degree of hydrolysis
 19. Hydrolysis constant, Expression of pH
 - 20 Numerical of hydrolysis, Introduction to buffer solution
 21. Mechanism, pH, buffer capacity
 22. Application of buffer , numerical
 23. Solubility and solubility product, numerical
 24. Application of solubility product in analysis.
 25. Acid base titration and titration curves, Indicators
 26. Theory and choice of indicators.

DIGBOI COLLEGE, DIGBOI

Course Plan (June 21 to Dec 21)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –HONOURS

Class/Semester-THIRD

Name of the Paper-C-7-PYSICAL CHEMISTRY

Units Assigned- III and IV

Marks Assigned- 20

CLASS	TOPIC/UNIT	REMARKS

UNIT: I Phase equilibria (Binary Solution)

1. Introduction, Different types of binary solution, thermodynamics of binary solution
2. Gibb's Duhem Margules equation, Raoult's Law, ideal and non ideal solution, vapour pressure composition diagram
3. Boiling point vs composition diagram ,Fractional distillation
4. Azeotropes and distillation, Lever rule,
5. Partial miscibility of binary liquid CST
6. Nernst's distribution law, thermodynamic derivation, limitation and application
7. Steam distillation, revision

Unit: I :Phase equilibria

8. Three component system, Triangular plot

Unit:II :Chemical kinetics

9. Collision Theory
10. Absolute reaction rate

DIGBOI COLLEGE, DIGBOI
Course Plan (June 21 to Dec 21)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –GENERIC

Class/Semester-THIRD

Name of the Paper-Ge-301-PYSICAL CHEMISTRY

Units Assigned- III and IV

Marks Assigned- 14

CLASS	TOPIC/UNIT	REMARKS

UNIT:I-SOLUTION

- 1 Ideal and non ideal solution, thermodynamics of

- ideal and non ideal solution
 - 2 VP vs Composition diagram, BPt. vs composition diagram, fractional distillation
 - 3 Azeotropes, Distillation
 4. Partial miscibility of binary liquid, CST,UCST,LCST
 - 5 Immiscible liquid pair, Nernst distribution law, application
 6. Steam distillation, Solvent extraction
 7. Solvent extraction
 8. Revision, Question Answer discussion
- UNIT:IV :Electrochemical Cell
9. Definition of reversible and irreversible cells ,concept of EMF and electrode potential, Electrochemical cell .
 10. Nernst's equation ,cell potential, thermodynamics of ECC
 11. Numerical on cell potential, Eq. constant, free energy, entropy enthalpy etc.
 12. Hydrogen Electrode, Quinhydrone electrode, Single electrodes EMF of cell,
 13. pH determination using hydrogen and quinhydrone electrodes
 14. Liquid Junction Potential, Concentration cell, Concentration cell without transference
 15. Concentration cell with transference
 16. Revision.

DIGBOI COLLEGE, DIGBOI
Course Plan (June 21 to Dec 21)

Name of the Teacher- JONALI DUTTA

Course –Honours / Generic –MAJOR

Class/Semester-FIFTH

MARKS : 34

Name of the Paper C-502: Physical Chemistry

CLAS	TOPIC/UNIT	REMAR
UNIT:I:QUANTUM CHEMISTRY:		

- 1 Introduction: EMR, wavelength, frequency, spectra
- 2 Black body radiation, Planck's hypothesis, Photoelectric
- 3 Heisenberg uncertainty principle, wave function, Schrodinger

- 4 Normalised and orthogonal wave functions, interpretation of
 - 5 Expectation values ,postulate of quantum
 - 6 Particle in one dimensional box,Normalized wave functions
 7. Particle in three dimensional box ,Energy levels
 8. Solution of Schrodinger equation for diatomic rigid rotator
 9. Solution of Schrodinger equation for harmonic oscillator
 10. Solution of Schrodinger equation for H atom.Quantum
 11. Probability distribution, Shapes of S orbitals and p orbitals
 12. Simple harmonic motion and vibrational energy levels
 13. Angular momentum.
 14. Introduction to chemical bonding, VBT and MOT
 15. MO treatment of hydrogen molecule ion,
 16. MO of H₂, VBT of hydrogen molecule ,
 17. Comparison of VBT and MO
 18. Localised and non localized MO of homonuclear and
- UNIT:II:Molecular spectroscopy:
- 19 UNIT:I &II:General Principle and Microwave
 20. Electromagnetic radiation,Different types of spectra ,and
 - 21 Microwave spectroscopy,rigid diatomic atomic
 22. Intensities of spectral lines Calculation of bond length of
 23. Isotopic substitution, Numerical, Question Answer
- Raman Spectroscopy:
24. Raman Effect, Stokes and antistokes lines, Polarizability
 25. Classical and quantum theory
 26. Rule of mutual exclusion,Application
 27. Polarizability ellipsoid of CO₂ and H₂O
 28. Raman Spectra ,Selection Rule,
 29. Structure of molecule
- Electronic Spectroscopy:
- 30 Frank-Condon Principal, Born Oppenheimer
 - 31 Different types of electronic transition, Selection Rule
 - 32 Intensities of lines, Spin Multiplicity
 33. Fluorescence, Phosphorescence,Dissociation,
 34. Electronic transitions of polyenes from free electron

Department of Commerce

DIGBOI COLLEGE, DIGBOI
COURSE PLAN

Name of the Teacher- Dr. Deborshee Gogoi
Stream: Commerce

Course –Honours

Class/Semester- B. Com 1stSemester

Name of the Paper- **Business Law**

Units Assigned- Unit 4 (Part B) and Unit 5

Marks Assigned- 8+16 = 24

Class	Topic/ Unit	Remarks
1.	Introduction to LLP	Unit 4 Part B
2.	Salient Features of LLP	
3.	Differences between LLP & Partnership, LLP & Company	
4.	LLP Agreement	
5.	Partners and Designated Partners	
6.	Incorporation Document	
7.	Incorporation by Registration	
8.	Partners and their Relationship	
9.	Dissolution of LLP	
1.	Introduction, Meaning, Characteristics	Unit 5
2.	Essentials of a Negotiable Instrument	
3.	Presumptions	
4.	Promissory Note, features, parties to a promissory note	
5.	Bills of Exchange, features, parties to a bill of exchange	
6.	Cheque, features, parties to a cheque, crossing, types of crossing	
7.	Promissory Note vs Bills of Exchange; Bills of Exchange vs Cheque	

Course – Honours

Class/Semester- B. Com 2ndSemester

Name of the Paper- **Corporate Law**

Units Assigned- Unit 3

Marks Assigned- 18= 18

Class	Topic/ Unit	Remarks
1.	Board of Directors, Directors	Unit 2
2.	women directors, independent director, small shareholder's director	
3.	Appointment of directors	
4.	Disqualification of Directors	
5.	Legal provisions associated with Director's Identification Number	
6.	Power and duties of a Director	
7.	Removal of Director	
8.	Managing Director, definition, appointment of MD, duties of MD	
9.	Meeting: Meetings of shareholders and board of directors	
10.	types of meetings, convening and conduct of meetings, requisites of a valid meeting,	
11.	postal ballot, meting through video conferencing, e- voting	

Course – Honours

Class/Semester- B. Com 3rdSemester

Name of the Paper- **Human Resource Management**

Units Assigned- Unit 1 and Unit 3

Marks Assigned- 16

Class	Topic/ Unit	Remarks
1.	HRP- Introduction, Quantitative & Qualitative dimensions	Unit 2
2.	Job analysis – job description and job specification, need, features	
3.	Recruitment – Concept	
4.	Recruitment- Need and Importance	
5.	Sources of Recruitment- Internal and External	
6.	Selection – Concept and process	
7.	Methods of selection	
8.	test and interview	
9.	placement and induction	

Course – Honours

Class/Semester- B. Com 3rdSemester

Name of the Paper- **Management Principles and Applications**

Units Assigned- Unit 1

Marks Assigned- 16= 16

Class	Topic/ Unit	Remarks
1.	Concept: Need for Study	Unit 1
2.	Managerial Functions – An overview	
3.	Co-ordination: Essence of Managership	
4.	Evolution of the Management Thought	
5.	Classical Approach – Taylor, Fayol	
6.	Neo-Classical and Human Relations Approaches – Mayo, Hawthorne Experiments, Behavioural Approach	
7.	Systems Approach, Contingency Approach – Lawrence& Lorsch	
8.	MBO - Peter F. Drucker, Re-engineering - Hammer and Champy	
9.	Michael Porter – Five-force analysis	
10.	Three generic strategies and valuechain	
11.	Senge's Learning Organisation,	
12.	'Fortune at the Bottom of the Pyramid' – C.K. Prahalad	
13.	Re-engineering - Hammer and Champy	

Course – SEC

Class/Semester- B. Com 4th Semester

Name of the Paper- **Retail Management**

Units Assigned- Unit 1

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Store based retailing: Meaning, Characteristics, Merits, Demerits	Unit 3
2.	Non-Store based retailing: Meaning, Characteristics, Merits, Demerits	
3.	Vertical Marketing System	
4.	Vertical Marketing System	
5.	Retailing Life Cycle	
6.	Retailing Life Cycle	

Course – Honours

Class/Semester- B. Com 5th Semester

Name of the Paper- **Principles of Marketing**

Units Assigned- Unit 1 and Unit 3

Marks Assigned- 20+20 = 40

Class	Topic/ Unit	Remarks
1.	Introduction: Nature and scope of marketing	Unit 1
2.	Marketing Concepts	
3.	Marketing vs Selling	
4.	Marketing Environment	
5.	Marketing Research	
6.	Importance of Marketing	
7.	Online Marketing	
8.	Case studies	
9.	Product- Introduction and Characteristics	Unit 3
10.	Types of Products- Consumer, shopping and speciality	
11.	Product Mix	
12.	Packaging, Branding and labeling	
13.	New Product Development	
14.	Marketing strategies with regard to NPD	
15.	Price- Importance	
16.	Factors influencing pricing decisions	
17.	Objectives of Pricing	
18.	Methods of Pricing	

Course – DSE

Class/Semester- B. Com 5th Semester

Name of the Paper- **Consumer Behaviour**

Units Assigned- Unit 1, 2,3 and 4

Marks Assigned- 20=20

Class	Topic/ Unit	Remarks
1.	Socio-Cultural Factors of Consumer Behaviour	Unit 3
2.	Socio-Cultural Factors of Consumer Behaviour	
3.	Buyers' Black Box	
4.	Role of Culture in Consumer Behaviour	
5.	Role of Sub-Culture in Consumer Behaviour	
6.	Role of Social Class in Consumer Behaviour	
7.	Reference groups and their role in consumer behaviour	
8.	Family and its role in consumer behaviour	
9.	Role of rules and status in consumer behaviour	
10.	Revision and doubt clearing	
11.	Discussion of important questions and answers	

Course –CBCS

Class/Semester- B. Com 5th Semester

Name of the Paper- **Retail Management**

Units Assigned- Unit 1 and Unit 2

Marks Assigned- 20+20=40

Class	Topic/ Unit	Remarks
1.	Retailing Concept	Unit 1
2.	Indian Retailing Overview	
3.	Nature and Scope of Retailing	
4.	Significance of Retailing	
5.	Reasons for growth of retailing	
6.	Emerging trends in retailing	
7.	Emerging trends in retailing	
8.	Concept and overview of e-tailing	
9.	Logistic issues	Unit 3
10.	Inventory Management	
11.	Warehousing	
12.	Transportation	
13.	Store Location	
14.	Revision and doubt clearing	

Course –Non-CBCS

Class/Semester- B. Com 6thSemester

Name of the Paper- **Advertising Management**

Units Assigned- Unit 1 and Unit 4

Marks Assigned- 20+20 = 40

Class	Topic/ Unit	Remarks
1.	Advertising Planning	Unit 1
2.	Decision Making in Advertising	
3.	Development of advertising programme	
4.	Market Segmentation	
5.	Selection of Advertising Media	
6.	Types of advertising media	
7.	Relative advantages of advertising media	
8.	Relative disadvantages of advertising media	
9.	Doubt Clearing and Revision	
10.	Doubt Clearing and Revision	
11.	Advertising Agency	Unit 4
12.	Role of advertising agency	
13.	Services provided by advertising agency	
14.	Types of advertising agency	
15.	Selection of advertising agency	
16.	Relationship with clients	
17.	Doubt clearing and revision	
18.	Ad-made show	
19.	Ad-made show	
20.	Ad-made show	

Course –NON-CBCS

Class/Semester- B. Com 6thSemester

Name of the Paper- **Rural Marketing**

Units Assigned- Unit 1, 2, 3 and 4

Marks Assigned- 20+20+20+20=80

Class	Topic/ Unit	Remarks
1.	Indian Rural Market Overview	Unit 1
2.	Rural Marketing Meaning and Significance	
3.	Nature and Scope of Rural Marketing	
4.	Evolution of Rural Marketing	
5.	Dynamics in rural marketing	
6.	Dynamics in rural marketing	
7.	Revision and doubt clearing	
8.	Group Discussion	
9.	Class Assignment	
10.	Class Assignment	
11.	Rural Marketing Environment	
12.	Rural Marketing Environment	
13.	Rural Marketing Environment	
14.	Influence of geographical factors on marketing operations	
15.	Influence of geographical factors on marketing operations	

16.	Influence of economic factors on marketing operations	Unit 2
17.	Influence of economic factors on marketing operations	
18.	Influence of socio-cultural factors on marketing operations	
19.	Influence of socio-cultural factors on marketing operations	
20.	Influence of other factors on marketing operations	
21.	Market Segmentation	Unit 3
22.	Rural Market Segmentation	
23.	Pre-requisites of effective segmentation	
24.	Pre-requisites of effective segmentation	
25.	Approaches to rural segmentation	
26.	Approaches to rural segmentation	
27.	Influence of market segmentation in rural marketing	
28.	Influence of market segmentation in rural marketing	
29.	Case studies	
30.	Doubt clearing and revision	
31.	Rural Marketing Strategies	Unit 4
32.	Product Planning for rural marketing	
33.	Product features for rural marketing	
34.	Distribution channels	
35.	Pricing issues in rural marketing	
36.	Logistics issues in rural marketing	
37.	Doubt clearing and revision	

Course – Non-CBCS

Class/Semester- B. Com 6th Semester

Name of the Paper- **Basics of Academic Project Preparation**

Units Assigned- Unit 1

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Introduction to Research:	Unit 1
2.	Types of research projects	
3.	Fact, concept and theories;	
4.	Planning the research project-essential ingredients of planning;	
5.	Developing research questions.	
6.	Research Design-Components.	

Course – Non-CBCS

Class/Semester- B. Com 6thSemester

Name of the Paper- **Small Business Management**

Units Assigned- Unit 1

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Small Business – Micro and small enterprise – concept, definition, characteristics and rationale.	Unit 1
2.	Relationship between large and small enterprise.	
3.	Different types of micro and small enterprise and their distinctive characteristics.	
4.	Role of small business – a brief global perspective with special reference to Indian economy.	
5.	Features of Micro, small and medium enterprise Act 2006, governing the promotion and management of Micro and small enterprise in India.	
6.	Industrial policies of the Central and state Govt. governing the promotion and management of Micro and small enterprise in N. E. India with special reference to Assam	

Course – Non-CBCS

Class/Semester- B. Com 6thSemester

Name of the Paper- **International Business**

Units Assigned- Unit 1 and 4

Marks Assigned- 20+20=40

Class	Topic/ Unit	Remarks
1.	India's Foreign Trade- An Introduction	Unit 1
2.	Trends and Developments; Commodity composition and direction;	
3.	India's Foreign Trade in global context.	
4.	Infrastructure Support for Export Promotion: Export Promotion Councils; Commodity boards/ product export development authorities;	Unit 4
5.	Specific service institutions;	
6.	State trading organizations;	
7.	Export and Trading Houses.;	
8.	Export Processing Zones/Special Economic Zone (EPZ/SEZ);	
9.	Export Oriented units (EOUs).	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 1st semester

Name of the Paper- Financial Accounting

Units Assigned- Unit 1 (Upto part b) and unit 3

Marks Assigned- 25

Class	Topic/ Unit
1.	Issue of syllabus and Meaning and scope of accounting
2.	Basic accounting concept and conventions
3.	Accounting standard-concepts
4.	Users of financial accounting information and their needs. Qualitative characteristics of accounting information, functions
5.	Advantages and limitations of accounting. Branches of accounting. Bases of accounting; cash basis and accrual basis.
6.	Financial accounting standards: IFRS, Ind AS
7.	Accounting Process and Revision
8.	Meaning for Hire Purchase and Instalment Purchase system, difference between hire purchase, instalment purchase and credit sale
9.	Basic terms used in hire purchase system, advantages and disadvantages
10.	Rights and obligations of hire vendor and hire purchaser
11.	Problems with preparing Journal & ledger Accounts for Vendor and purchaser according to full cash price method
12.	Problems with preparing Journal & ledger Accounts for Vendor and purchaser according to asset accrual method
13.	Problems of Hire purchase - with missing figures Of cash price of Asset.
14.	Concept of Problems with Default and Repossession And problems of complete repossession
15.	Problems with partial repossession.
16.	Problems of Installment purchase system.
17.	Problems of Installment purchase system.
18.	Revision and class test.
19.	Concept of operating and Financial lease.

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 3rd semester

Name of the Paper- Income Tax Law & Practice

Units Assigned- Unit 3 & 4 and practical

Marks Assigned- 45

Class	Topic/ Unit
1	Tax introduction, heads/source of income, gross total income
2.	Income from business or profession – Introduction, definition Basis of charge sec 28
3.	Allowable expenses From sec 30 to 35. Including block of assets
3	Allowable expenses from 36 to 37. Provisions relating to depreciation, additional depreciation
4	Deductions under sec 40
5.	Special provision for computing incomes on estimated basis under sections 44 AD and 45 AE
6.	Computation of income from business.
7.	Problem related to Profits and Gains to Business Income
8.	Problem related to Profits and Gains to Business Income
9.	Problem related to Profits and Gains from Professional income of Medical Practitioner.
10.	Problem related to Profits and Gains from Professional income of lawyer
11.	Problem related to Profits and Gains from Professional income of Chartered Accountant.
12.	Revision and test
13.	Capital gain- definition, basis of charge, capital assets
14.	Period of holding, transfer, transaction not regarded as transfer sec 46& 47
15.	Computation of capital gain both long term and short term, indexed cost of acquisition and improvement
16.	Problems of capital gain, capital gain exempt from tax
17.	Exemptions in respect of certain capital gain u/s 10 & 54
18.	Problems related to Capital Gain.
19.	Income from other sources- definition, specific incomes and other income.
20	Problems related with income from other source and discussion.
21	Carry forward and set off of losses definitions and provisions of inter- source set off
22	Provision for Inter-head setoff and problems.

23	Income of other persons included in assessee total income;
24	Deductions from gross total income, Rebates and reliefs
25	Computation of total income of individuals and firms; Tax liability of an individual and a firm
26	Assignment discussion on Five leading cases decided by the Supreme Court.
27	ITR filing for different assesses, form 1 to 7
28	Practical classes for ITR
29	Practical classes for ITR
30	Practical classes for ITR
31	Practical classes for ITR
32	Practical classes for ITR

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 2nd Semester

Name of the Paper- CORPORATE ACCOUNTING

Units Assigned- unit 1

Marks Assigned- 20

Class	Topic/ Unit
1.	Introduction to course, accounting for share capital
2.	Company meaning definition , share, debenture
3.	Share, share capital – types, issue of share
4.	Accounting for issue of share, journal entries
5.	Problems related with issue of share
6.	Share forfeiture, and reissue of share
7.	Practicing problems of Share forfeiture, and reissue of share
8.	Book building, process, bonus share- meaning, benefits, right share
9.	Buy back of share, redemption of shares
10.	Practicing problems
11.	Practicing problems
12.	Debenture – meaning, type, accounting entries
13.	Practicing problems of issue and redemption of debenture
14.	Practicing problems
15.	Practicing problems of previous year papers
16.	Revision.

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 4th semester

Name of the Paper- COST ACCOUNTING

Units Assigned- Unit 1 & unit 3

Marks Assigned- 40

Class	Topic/ Unit
1.	Cost accounting- meaning definition, nature, scope.
2.	Cost , costing advantages, disadvantages, differences
3.	Cost concepts, cost classification,
4.	Cost concepts, cost classification
5.	Costing system, installation
6.	Method of costing, techniques, cost standard
7.	Preparation of cost sheet
8.	Preparation of cost sheet
9.	Preparation of cost sheet
10.	Revision and Test
11.	Overhead –meaning, definition, importance
12.	Classification of overhead cost
13.	Codification of overheads, allocation and apportionment of overhead
14.	Reapportionment of overhead
15.	Problems of apportionment and reapportionment
16.	Problems of apportionment and reapportionment
17.	Absorption of overhead
18.	Absorption of overhead-problems
19.	Activity based costing
20.	Problems of absorption of overhead
21.	Revision ,Practicing previous year question paper
22.	Class test

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 3rd semester

Name of the Paper- Business Statistics

Units Assigned- Unit 1 (Upto part b) and unit 3

Marks Assigned- 16

Class	Topic/ Unit
1.	Index Number- meaning, characteristics, uses
2.	Types of index number, Construction of index numbers
3	Problems in the construction of index numbers
4.	simple and weighted index numbers , problems
5.	Problems of index number and Tests of adequacy of index numbers
6.	Problems of index number,
7.	Fixed base and chain base index number
8.	Base shifting, splicing and deflating
9.	Construction of consumer price indices
10.	share price indices including BSE SENSEX and NSE NIFTY
11	Revision and test

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 5th semester

Name of the Paper- Entrepreneurship

Units Assigned- Unit 1

Marks Assigned- 20

Class	Topic/ Unit
1.	Entrepreneurship – introduction
2.	Self help group – meaning, objectives
3.	Formation of SHG, and findings
4.	Working of SHGs,
5.	Promotional agencies
6.	Leadership meaning, styles
7.	Theories of leadership- the trait theory, situational theory
8.	Theories of leadership- the free rein theory, follower's theory.
9.	EDP- meaning, needs, objectives,
10.	Phases of EDP
11.	Entrepreneurship development institutions
12.	Group discussion
13.	Discussion of various schemes
14	Revision
15	Test

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 5th semester

Name of the Paper- Management Accounting

Units Assigned- Unit 1 and 2

Marks Assigned- 40

Class	Topic/ Unit
1.	Management Accounting- meaning, definition, nature, scope
2.	Objectives or role of management Accounting
3.	Functions of Management Accounting,
4.	Tools and techniques of management accounting
5.	Distinction among financial, cost and management accounting
6.	Role of management accountant and installation of management accounting system
7.	Revision and group discussion
8.	Class test
9.	Fund flow analysis- meaning, importance
10.	Sources and application of funds
11.	Preparation of fund flow analysis
12.	Problems of Fund flow analysis
13.	Problems of Fund flow analysis
14	Problems of Fund flow analysis
15.	Cash flow analysis
16	Problems of Fund flow analysis
17	Problems of Fund flow analysis
18	Problems of Fund flow analysis
19	Class test
20.	Revision and doubt clearing

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 6th semester

Name of the Paper- Indian Financial System

Units Assigned- Unit 2

Marks Assigned- 30

Class	Topic/ Unit
1.	Overview of the subject- Indian financial system, component of IFS
2.	Financial Institution- banking , non banking, role
3.	Structure of banking in India
4.	Commercial banks - roles
5.	Sources and application of fund
6.	Rural regional banks, NABARD, foreign banks, co operative banks
7.	Central bank of India-RBI, Role
8.	Monetary policy of RBI,
9.	Non banking financial institutions
10.	Lease financing
11.	Revision and doubt clearing
12.	Class Test
13.	SEBI- organization, objectives of SEBI
14.	Role of SEBI
15.	Group discussion
16	Mutual fund- meaning, benefits
16.	Types of Mutual Fund Scheme
17.	Revision

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 1st semester

Name of the Paper- FSA

Units Assigned- Unit 3 and part of unit IV

Marks Assigned- 20+10=30

Class	Topic/ Unit
1.	Financial reporting, meaning, objectives
2.	Corporate social responsibility-meaning, Reporting
3.	Corporate social responsibility-meaning, Reporting
4.	Triple bottom line reporting
5.	Sustainability reporting
6.	Corporate governance, evolution
7.	Corporate governance
8.	Group Discussion
9.	Revision
10.	Financial reporting by banks
11.	Financial reporting by banks
12.	Financial reporting by banks
13.	Revision and doubt clearing
14.	Class test
15.	Preparation of Report

Course Plan

Name of the Teacher- Dr. Sampreeti Boruah

Course –Honours / Generic – Honours

Class/Semester- B.com 6th semester

Name of the Paper- BAAP

Units Assigned-

Marks Assigned- 20

Class	Topic/ Unit
1.	Research – introduction and overview
2.	Data – types , tools of data collection
3.	Questionnaire, benefits, preparation of questionnaire
4.	Questionnaire construction, and types of questions
5.	Schedule- preparation of schedule
6.	Dealing with non responses
7.	Sample, sampling, methods of sampling
8.	Sampling techniques
9.	Sampling techniques
10.	Group Discussion
11.	Revision
12.	

DIGBOI COLLEGE, DIGBOI
COURSE PLAN

Name of the Teacher- Samrat Bharadwaj
Stream: Commerce

Course – Honours

Class/Semester- B. Com 1st Semester

Name of the Paper- Business Law

Units Assigned- Unit 1 and Unit 2

Marks Assigned- 16+16 = 32

Class	Topic/ Unit	Remarks
1.	Contract: Meaning and Characteristics	Unit 1
2.	Types of Contracts	
3.	Offer and Acceptance, Consideration, Contractual Capacity	
4.	Free Capacity, Free Consent, Legality of Objects	
5.	Void Agreements	
6.	Discharge of Contract	
7.	Discharge of Contract	
8.	Discharge of Contract	
9.	Contingent Contracts	
10.	Contingent Contracts	
11.	Quasi Contracts	
12.	Quasi Contracts	
13.	Revision and Doubt Clearing	
14.	Questions and Answers Discussion	
15.	Contract of Indemnity	Unit 2
16.	Contract of Indemnity	
17.	Contract of Guarantee	
18.	Contract of Bailment	
19.	Contract of Bailment	
20.	Contract of Agency	
21.	Contract of Agency	
22.	Questions and Answers Discussion	
23.	Revision and Doubt Clearing	
24.	Revision and Doubt Clearing	

Course – Honours

Class/Semester- B. Com 2nd Semester

Name of the Paper- Corporate Law

Units Assigned- Unit 2 and Unit 5

Marks Assigned- 18+8 = 26

Class	Topic/ Unit	Remarks
1.	Memorandum of Association	Unit 2
2.	Characteristics of Memorandum of Association	
3.	Articles of Association	
4.	Clauses of Articles of Association	
5.	Doctrine of Constructive Notice	
6.	Doctrine of Indoor Management	
7.	Prospectus: Meaning and Importance	
8.	Red Herring and Shelf Prospectus	
9.	Misstatement in Prospectus	
10.	Global Depository Receipts, Book Building	
11.	Issue, Allotment and Forfeiture of Share	
12.	Transmission of shares	
13.	Buyback of Shares, Provisions of buyback, Issue of Bonus Shares	
14.	Revision and Doubt Clearing	Unit 5
15.	Depositories Act, 1996: Definition and Basics	
16.	Rights and Obligations of Depositories	
17.	Participants, issuers and beneficial owners	
18.	Enquiry, inspections and penalty.	
19.	Revision and Doubt Clearing	

Course – Honours

Class/Semester- B. Com 3rd Semester

Name of the Paper- Human Resource Management

Units Assigned- Unit 1 and Unit 3

Marks Assigned- 16+16 = 32

Class	Topic/ Unit	Remarks
1.	Meaning of Human Resource Management	Unit 1
2.	Functions and Role of HRM	
3.	HR manager: Competencies and Status	
4.	HR Policies	
5.	History and Evolution of HRM	
6.	HRM vs HRD	
7.	Emerging Challenges of HRM	
8.	Workforce Diversity	
9.	Empowerment	
10.	Downsizing	
11.	Voluntary Retirement Scheme	
12.	Human Resource Information System	
13.	Revision and Doubt Clearing	
14.	Revision and Doubt Clearing	
15.	Basic Concept of Training and its Importance	Unit 3
16.	Training Needs Identification and Development Needs	
17.	Designing Training Programme	
18.	Role Specific and Competency Based Training	
19.	Evaluating Training Effectiveness	
20.	Training Process Outsourcing	
21.	Management Development	
22.	Career Development	
23.	Revision and Doubt Clearing	
24.	Flipped Classroom	
25.	Flipped Classroom	
26.	Flipped Classroom	

Course – Honours

Class/Semester- B. Com 3rd Semester

Name of the Paper- Management Principles and Applications

Units Assigned- Unit 3 and Unit 4

Marks Assigned- 16+16 = 32

Class	Topic/ Unit	Remarks
1.	Meaning and Steps of Organising	Unit 3
2.	Characteristics, Merits of Organising	
3.	Functional Structure	
4.	Divisional Structure	
5.	Span of Management	
6.	Line, Staff and Functional Authority	
7.	Decentralization	
8.	Delegation of Authority	
9.	Formal and Informal Structure	
10.	Principles of Organising	
11.	Principles of Organising	
12.	Network Organization Structure	
13.	Revision and Doubt Clearing	
14.	Concept of Staffing and its Characteristics and Process	Unit 4
15.	Concept of Motivation and its importance	
16.	Extrinsic and Intrinsic Motivation	
17.	Maslow's Need Hierarchy Theory	
18.	Herzberg's Two Factor Theory	
19.	Vroom's Expectancy Theory	
20.	Concept and Importance of Leadership	
21.	Likert Scale's Theory, Managerial Grid Theory, Path Goal Theory	
22.	Fred Fielder's Situational Leadership, Transactional, Transformational and Transforming Leadership	
23.	Communication: Purpose, Significance, Written and Oral Communication	
24.	Formal and Informal Communication, Barriers to communication	
25.	Revision and Doubt Clearing	
26.	Revision and Doubt Clearing	

Course –Generic

Class/Semester- B. Com 3rd Semester

Name of the Paper- Business Statistics

Units Assigned- Unit 3 and Unit 6

Marks Assigned- 16+8 = 24

Class	Topic/ Unit	Remarks
1.	Meaning of correlation: simple, multiple and partial	Unit 3
2.	Linear and Non-Linear correlation	
3.	Correlation and causation, Scatter Diagram	
4.	Pearson's Co-efficient of correlation	
5.	Rank correlation	
6.	Correlation and probable errors	
7.	Principle of least squares and regression lines, regression equation and estimation, properties of regression coefficient	
8.	Relationship between correlation and regression coefficients, Standard errors of estimate	
9.	Population vs Sample, Parameter vs Statistic	Unit 6
10.	Descriptive vs inferential statistics, Sampling methods	
11.	Sampling Methods	
12.	Sampling Methods	
13.	Point and Interval estimation of means and proportions	
14.	Doubt Clearing and Revision	
15.	Discussion of problematic sums	

Course – SEC

Class/Semester- B. Com 3rd Semester

Name of the Paper- E-Commerce

Units Assigned- Unit 1 and Unit 5

Marks Assigned- 16+8 = 24

Class	Topic/ Unit	Remarks
1.	E-Commerce: Meaning, Nature, Advantages, Disadvantages	Unit 1
2.	Reasons for online business, types of e-commerce	
3.	e-commerce business models, forces behind e-commerce	
4.	World wide web and internet: basics	
5.	World wide web and internet: evolution and features	
6.	Launching an e-commerce website	
7.	Launching an e-commerce website	
8.	Revision and doubt clearing	
9.	Models and Methods of e-payment	Unit 5
10.	Digital signature, payment gateways, online banking	
11.	Online banking: EFT, Automated ledger posting, automated clearing house	
12.	Risks involved in e-payment	
13.	Revision and Doubt clearing	

Course – SEC

Class/Semester- B. Com 4th Semester

Name of the Paper- Retail Management

Units Assigned- Unit 3

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Store based retailing: Meaning, Characteristics, Merits, Demerits	Unit 3
2.	Non-Store based retailing: Meaning, Characteristics, Merits, Demerits	
3.	Vertical Marketing System	
4.	Vertical Marketing System	
5.	Retailing Life Cycle	
6.	Retailing Life Cycle	
7.	Doubt Clearing and Revision	
8.	Doubt Clearing and Revision	
9.	Discussion of Case studies	
10.	Discussion of Case studies	

Course – Honours

Class/Semester- B. Com 5th Semester

Name of the Paper- Principles of Marketing

Units Assigned- Unit 2 and Unit 4

Marks Assigned- 20+20 = 40

Class	Topic/ Unit	Remarks
1.	Consumer Behaviour: Concept	Unit 2
2.	Consumer Behaviour: Significance	
3.	Relevance of consumer behavior in marketing	
4.	Market segmentation: Meaning and Importance	
5.	Bases for market segmentation	
6.	Bases for market segmentation	
7.	Strategies associated with market segmentation	
8.	Discussion of Case studies	
9.	Doubt Clearing and Revision	
10.	Doubt Clearing and Revision	
11.	Flipped Classroom	
12.	Flipped Classroom	
13.	Flipped Classroom	
14.	In-House Debate	
15.	Important Questions and Answers Discussion	
16.	Important Questions and Answers Discussion	
17.	Meaning of Promotion Mix	Unit 4
18.	Needs and importance of Promotion	
19.	Elements of Promotion Mix	
20.	Elements of Promotion Mix	
21.	Distribution Channels: Meaning and Significance	
22.	Types of channels of distribution	
23.	Factors affecting choice of distribution channels	
24.	Factors affecting choice of distribution channels	
25.	Real life examples of successful promotional campaigns	
26.	Discussion of Case Studies	
27.	Revision and Doubt Clearing	
28.	Ad-Made Show	
29.	Ad-Made Show	
30.	Important Question and Answer Discussion	
31.	Important Question and Answer Discussion	
32.	Overall Doubt Clearing Session	

Course – DSE

Class/Semester- B. Com 5th Semester

Name of the Paper- Consumer Behaviour

Units Assigned- Unit 1, 2,3 and 4

Marks Assigned- 20+20+20+20=80

Class	Topic/ Unit	Remarks
1.	Consumer Behaviour: Concept	Unit 1
2.	Consumer Behaviour: Characteristics	
3.	Consumer Behaviour: Significance	
4.	Consumer behaviour as a marketing discipline	
5.	Relevance of consumer behavior in marketing	
6.	Consumer involvement	
7.	Consumer involvement	
8.	Decision making process	
9.	Decision making process	
10.	Discussion of Case studies	
11.	Discussion of Case studies	
12.	Revision and Doubt clearing session	
13.	Revision and Doubt clearing session	
14.	Discussion of important questions and answers	
15.	Class assignment	
16.	Class assignment	
17.	Information Search: Meaning, Importance	Unit 2
18.	Information Search Process	
19.	Evaluation criteria of information search	
20.	Decision Rules	
21.	Decision Rules	
22.	Consumer Needs and Motives	
23.	Consumer Needs and Motives	
24.	Consumer Needs and Motives	
25.	Discussion of Case Studies	
26.	Doubt Clearing and Revision	
27.	Doubt Clearing and Revision	
28.	Discussion of important questions and answers	
29.	Discussion of important questions and answers	
30.	Group Discussion	
31.	Assignment Allotment and group formation (Market Survey)	Internal Assessment Project
32.	Topic Distribution for assignment (Market Survey)	
33.	Market Data Collection	
34.	Market Data Collection	
35.	Market Data Collection	
36.	Market Data Collection	
37.	Presenting the proof of market survey	

38.	Guiding on how to write a research paper	
39.	Socio-Cultural Factors of Consumer Behaviour	Unit 3
40.	Socio-Cultural Factors of Consumer Behaviour	
41.	Buyers' Black Box	
42.	Role of Culture in Consumer Behaviour	
43.	Role of Sub-Culture in Consumer Behaviour	
44.	Role of Social Class in Consumer Behaviour	
45.	Reference groups and their role in consumer behaviour	
46.	Family and its role in consumer behaviour	
47.	Role of rules and status in consumer behaviour	
48.	Revision and doubt clearing	
49.	Discussion of important questions and answers	
50.	Personal Factors influencing consumer behaviour	Unit 4
51.	Psychological factors influencing consumer behaviour	
52.	Role of Age and life cycle stage in consumer behaviour	
53.	Economic Circumstances and consumer behaviour	
54.	Lifestyle	
55.	Personality and Self-Concept	
56.	Personality and Self-Concept	
57.	Revision and Doubt Clearing Session	
58.	Discussion of important Question and Answers	
59.	Discussion of important Question and Answers	
60.	Flipped Classroom	
61.	Flipped Classroom	
62.	Flipped Classroom	
63.	Collection of Projects	
64.	Collection of Projects	

Course – Non-CBCS

Class/Semester- B. Com 5th Semester

Name of the Paper- Retail Management

Units Assigned- Unit 1 and Unit 2

Marks Assigned- 20+20=40

Class	Topic/ Unit	Remarks
1.	Retailing Concept	Unit 1
2.	Indian Retailing Overview	
3.	Nature and Scope of Retailing	
4.	Significance of Retailing	
5.	Reasons for growth of retailing	
6.	Emerging trends in retailing	
7.	Emerging trends in retailing	
8.	Concept and overview of e-tailing	
9.	Revision and Doubt Clearing	
10.	Revision and Doubt Clearing	
11.	Types of Retailing	Unit 2
12.	Functions of retailing	
13.	Functions of retailing	
14.	Departmental Stores	
15.	Departmental Stores	
16.	Convenience Stores	
17.	Convenience Stores	
18.	Super Markets	
19.	Super Markets	
20.	Revision and doubt clearing	

Course – Non-CBCS

Class/Semester- B. Com 5th Semester

Name of the Paper- Sales Management

Units Assigned- Unit 2 and Unit 4

Marks Assigned- 20+20=40

Class	Topic/ Unit	Remarks
1.	Sales Force: Overview	Unit 2
2.	Steps in designing and managing sales force	
3.	Steps in designing and managing sales force	
4.	Functions and role of sales persons	
5.	Functions and role of sales persons	
6.	Functions and role of sales manager	
7.	Recruitment and Selection of sales force	
8.	Training of sales force	
9.	Revision and doubt clearing	
10.	Revision and doubt clearing	
11.	Sales Promotion: Meaning and Overview	Unit 4
12.	Significance of Sales Promotion	
13.	Factors influencing sales promotion	
14.	Tools for sales promotion	
15.	Sales promotion plan for new products	
16.	Factors affecting promotion mix	
17.	New role of marketing intermediaries	
18.	Distribution channels and factors influencing it	
19.	Online Shopping	
20.	Revision and Doubt Clearing	

Course – Non-CBCS

Class/Semester- B. Com 6th Semester

Name of the Paper- Advertising Management

Units Assigned- Unit 2 and Unit 4

Marks Assigned- 20+20 = 40

Class	Topic/ Unit	Remarks
1.	Advertising Planning	Unit 2
2.	Decision Making in Advertising	
3.	Development of advertising programme	
4.	Market Segmentation	
5.	Selection of Advertising Media	
6.	Types of advertising media	
7.	Relative advantages of advertising media	
8.	Relative disadvantages of advertising media	
9.	Doubt Clearing and Revision	
10.	Doubt Clearing and Revision	
11.	Advertising Agency	Unit 4
12.	Role of advertising agency	
13.	Services provided by advertising agency	
14.	Types of advertising agency	
15.	Selection of advertising agency	
16.	Relationship with clients	
17.	Doubt clearing and revision	
18.	Ad-made show	
19.	Ad-made show	
20.	Ad-made show	

Course – Non-CBCS

Class/Semester- B. Com 6th Semester

Name of the Paper- Rural Marketing

Units Assigned- Unit 1, 2, 3 and 4

Marks Assigned- 20+20+20+20=80

Class	Topic/ Unit	Remarks
1.	Indian Rural Market Overview	Unit 1
2.	Rural Marketing Meaning and Significance	
3.	Nature and Scope of Rural Marketing	
4.	Evolution of Rural Marketing	
5.	Dynamics in rural marketing	
6.	Dynamics in rural marketing	
7.	Revision and doubt clearing	
8.	Revision and doubt clearing	
9.	Class Assignment	
10.	Class Assignment	
11.	Rural Marketing Environment	Unit 2
12.	Rural Marketing Environment	
13.	Rural Marketing Environment	
14.	Influence of geographical factors on marketing operations	
15.	Influence of geographical factors on marketing operations	
16.	Influence of economic factors on marketing operations	
17.	Influence of economic factors on marketing operations	
18.	Influence of socio-cultural factors on marketing operations	
19.	Influence of socio-cultural factors on marketing operations	
20.	Influence of other factors on marketing operations	
21.	Market Segmentation	Unit 3
22.	Rural Market Segmentation	
23.	Pre-requisites of effective segmentation	
24.	Pre-requisites of effective segmentation	
25.	Approaches to rural segmentation	
26.	Approaches to rural segmentation	
27.	Influence of market segmentation in rural marketing	
28.	Influence of market segmentation in rural marketing	
29.	Discussion of Case studies	
30.	Doubt clearing and revision	
31.	Rural Marketing Strategies	Unit 4
32.	Product Planning for rural marketing	
33.	Product features for rural marketing	
34.	Distribution channels	
35.	Distribution channels	
36.	Pricing issues in rural marketing	
37.	Pricing issues in rural marketing	
38.	Logistics issues in rural marketing	
39.	Doubt clearing and revision	
40.	Doubt clearing and revision	

Course – Non-CBCS

Class/Semester- B. Com 6th Semester

Name of the Paper- Basics of Academic Project Preparation

Units Assigned- Unit 4

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Data Processing	Unit 4
2.	Research Project Report: Meaning and Basics	
3.	Format of Research project Report	
4.	Interpreting a research project report	
5.	Quantitative data analysis	
6.	Qualitative data analysis	
7.	Referencing	
8.	Illustrations	
9.	Illustrations	
10.	Doubt Clearing and Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Subhadeep Chakraborty

Course –**Honours**

Class/Semester- B.Com 1st semester

Name of the Paper- Business Law

Units Assigned- 2

Marks Assigned- 24

Class	Topic/ Unit	Remarks
1.	Meaning of sale and agreement to sell	Unit 3
2.	Meaning and difference between sale and agreement to sell	Unit 3
3.	Essentials of Sale of Goods Act	Unit 3
4.	Essentials of Sale of Goods Act	Unit 3
5.	Important terms related to sale of goods	Unit 3
6.	Conditions and warranties	Unit 3
7.	Transfer of ownership of goods	Unit 3
8.	Hire purchase vs sale vs conditional sale	Unit 3
9.	Bailment vs sale vs conditional sale	Unit 3
10.	Unpaid seller- meaning and rights of unpaid seller against goods and the buyer	Unit 3
11.	Unpaid seller- rights of unpaid seller against goods and the buyer	Unit 3
12.	Group discussion	Unit 3
13.	Doubt clearing session	Unit 3
14.	Meaning of partnership with examples	Unit 4
15.	Nature and characterizes of partnership	Unit 4
16.	Types of partners	Unit 4
17.	Rights of partners	Unit 4
18.	Duties of partners	Unit 4
19.	Implied authority of partners	Unit 4
20.	Doubt clearing session	Unit 4

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Subhadeep Chakraborty

Course –Honours

Class/Semester- B.Com 2nd semester

Name of the Paper- Corporate Law

Units Assigned- 2

Marks Assigned- 36

Class	Topic/ Unit	Remarks
1.	Meaning of company	Unit 1
2.	Characteristics of company	Unit 1
3.	Characteristics of company	Unit 1
4.	Lifting of corporate veil	Unit 1
5.	Type of companies	Unit 1
6.	Type of companies	Unit 1
7.	Type of companies	Unit 1
8.	Formation of company	Unit 1
9.	Online filing of documents	Unit 1
10.	Pre-incorporation contract	Unit 1
11.	Online registration of company	Unit 1
12.	Discussion on National company law tribunal	Unit 1
13.	Discussion on National Company Appellate Law Tribunal	Unit 1
14.	Group discussion and doubt clearing session	Unit 1
15	Meaning of dividend	Unit 4
16	Provisions related to payment dividend	Unit 4
17	Auditor's report	Unit 4
18	Provisions related to books of account	Unit 4
19	Provisions related to audit	Unit 4
20	Auditor's appointment	Unit 4
21	Rotation auditors and audit report	Unit 4
22	Secretarial audit	Unit 4
23	Winding up –meaning and modes	Unit 4
24	Insider trading- meaning and legal provisions	Unit 4
25	Whistle blowing - meaning and mechanism	Unit 4
26	Group discussion	Unit 4
27	Doubt clearing session	Unit 4

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Subhadeep Chakraborty

Course – Honours

Class/Semester- B.Com 3rd semester

Name of the Paper- Human Resource Management

Units Assigned-2

Marks Assigned- 32

Class	Topic/ Unit	Remarks
1.	Meaning of performance appraisal and its nature	Unit 4
2.	Importance of performance appraisal	Unit 4
3.	Traditional techniques of performance appraisal	Unit 4
4.	Traditional techniques of performance appraisal	Unit 4
5.	Modern techniques of performance appraisal	Unit 4
6.	Modern techniques of performance appraisal	Unit 4
7.	Comparison of techniques of performance appraisal	Unit 4
8.	Job changes- transfers and promotion	Unit 4
9.	Compensation –concept and policies	Unit 4
10.	Job evaluation – methods of wage payment and incentive plan	Unit 4
11.	Job evaluation – methods of wage payment and incentive plan	Unit 4
12.	Fringe benefits, performance based compensation	Unit 4
13.	Employee health and safety	Unit 5
14.	Employee welfare	Unit 5
15.	Employee welfare and schemes	Unit 5
16.	Social security	Unit 5
17.	Employer-employee relations- overview	Unit 5
18.	Industrial grievance handling and redressal	Unit 5
19.	Industrial dispute- causes	Unit 5
20.	Industrial dispute settling machinery	Unit 5
21	Industrial dispute settling machinery	Unit 5
21	Doubt clearing session	Unit 5
22	Doubt clearing session	Unit 5

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Subhadeep Chakraborty

Course –Generic

Class/Semester- B.Com 3rd semester

Name of the Paper- Business Statistics

Units Assigned- 1

Marks Assigned- 14

Class	Topic/ Unit	Remarks
1.	Meaning and components of time series	Unit 5
2.	Additive and multiplicative model	Unit 5
3.	Trend analysis	Unit 5
4.	Trend analysis	Unit 5
5.	Conversion of annual linear trend equation to quarterly, monthly basis and vice versa	Unit 5
6.	Calculation of moving averages	Unit 5
7.	Calculation of moving averages	Unit 5
8.	Calculation of least square method	Unit 5
9.	Calculation of least square method	Unit 5

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Subhadeep Chakraborty

Course –SEC

Class/Semester- B. Com 3rd semester

Name of the Paper- Entrepreneurship Development

Units Assigned- 2

Marks Assigned- 25

Class	Topic/ Unit	Remarks
1.	Meaning of entrepreneur and entrepreneurship	
2.	Characteristics of entrepreneurship	
3.	Traits of a entrepreneur	
4.	Traits of a entrepreneur	
5.	Entrepreneur vs manager vs intrapreneur	
6.	Entrepreneur and enterprise	

7.	Brain storming session and discussion	
8.	Meaning of EDP and features	
9.	Relevance and achievements of EDP in India	
10.	Role of EDP in India	
11.	Govt's and NGO's role towards EDP	
12.	Brain storming session	
13.	Project preparation	

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Course Plan

Name of the Teacher- Dr Subhadeep Chakraborty

Course –SEC

Class/Semester- B. Com 3rd semester

Name of the Paper- E- Commerce

Units Assigned- 1

Marks Assigned- 8

Class	Topic/ Unit	Remarks
1.	Meaning of E- payment	Unit 4
2.	Modes of e-payment	Unit 4
3.	Digital signature, payment gateways	Unit 4
4.	Online banking, electric fund transfer, automated ledger	Unit 4
5	Risk involved in e-payment	Unit 4
6.	Doubt clearing session	Unit 4
7.	Group discussion and demonstration	Unit 4

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Subhadeep Chakraborty

Course –Honours

Class/Semester- B.Com 3rd semester

Name of the Paper- Management Principles and Application

Units Assigned- 2

Marks Assigned- 32

Class	Topic/ Unit	Remarks
1.	Meaning of plan and planning	Unit 2
2.	Types of plan	Unit 2
3.	Strategic planning – concept and process	Unit 2
4.	Importance and limitations of strategic planning	Unit 2
5.	Business environment- meaning and importance	Unit 2
6.	Internal Factors affecting business environment	Unit 2
7.	External Factors affecting business environment	Unit 2
8.	External Factors affecting business environment	Unit 2
9.	SWOT analysis	Unit 2
10.	TWOS, WOTS UP	Unit 2
11.	BCG matrix	Unit 2
12.	Competitor analysis	Unit 2
13.	Decision making- concept and importance, and process	Unit 2
14.	Techniques decision making	Unit 5
15.	Control- concept and purpose	Unit 5
16.	Process of controlling	Unit 5
17.	Principles of effective control	Unit 5
18.	Techniques of control	Unit 5
19.	Techniques of control	Unit 5
20.	Emerging issues in management	Unit 5

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Subhadeep Chakraborty

Course –SEC

Class/Semester- B. Com 4th semester

Name of the Paper- Retail management

Units Assigned- 1

Marks Assigned- 8

Class	Topic/ Unit	Remarks
1.	Meaning of retailing and its nature	Unit 2
2.	Functions of retailing	Unit 2
3.	Meaning of wholesaling	Unit 2
4.	Functions of wholesaling	Unit 2
5.	Difference between wholesale and retail	Unit 2
6.	Group discussion	Unit 2
7.	Project preparation	Unit 2

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- DR. Subhadeep Chakraborty

Course –Honours

Class/Semester- B.Com 5th semester

Name of the Paper- Retail management

Units Assigned- 2

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Retailing- meaning and nature	Unit 1
2.	Scope of retailing	Unit 1
3.	Reasons for growth of retailing	Unit 1
4.	Reasons for growth of retailing	Unit 1
5.	Emerging trends in retailing	Unit 1
6.	Group discussion	Unit 1
7.	Retailing types	Unit 1

8.	Retailing types	Unit 1
9.	Functions of retailing	Unit 4
10.	Discussion on Organized retailing	Unit 4
11.	Discussion on Organized retailing	Unit 4
12.	Discussion on Unorganized retailing	Unit 4
13.	Discussion on Unorganized retailing	Unit 4
14.	Challenges in retailing and global retailing trends	Unit 4
15.	Challenges in retailing and global retailing trends	Unit 4
16.	Project preparation	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- DR. Subhadeep Chakraborty

Course –Honours

Class/Semester- B.Com 5th semester

Name of the Paper- Retail management

Units Assigned- 2

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Retailing- meaning and nature	Unit 1
2.	Scope of retailing	Unit 1

3.	Reasons for growth of retailing	Unit 1
4.	Reasons for growth of retailing	Unit 1
5.	Emerging trends in retailing	Unit 1
6.	Group discussion	Unit 1
7.	Retailing types	Unit 1
8.	Retailing types	Unit 1
9.	Functions of retailing	Unit 4
10.	Discussion on Organized retailing	Unit 4
11.	Discussion on Organized retailing	Unit 4
12.	Discussion on Unorganized retailing	Unit 4
13.	Discussion on Unorganized retailing	Unit 4
14.	Challenges in retailing and global retailing trends	Unit 4
15.	Challenges in retailing and global retailing trends	Unit 4
16.	Project preparation	

DIGBOI COLLEGE, DIGBOI

Course Plan 2020

Name of the Teacher- Ms. Murchana Gogoi

Course – Honours (CBCS)

Class/Semester- B. Com 2nd Sem

Name of the Paper- CORPORATE ACCOUNTING

Units Assigned- III & IV

Marks Assigned- 20+12=32

Class	Topic/ Unit	Remarks
1.	Preparation of profit and loss account and balance sheet of corporate entities- Introduction with required formats	Unit-III
2	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
3	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
4	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
5	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
6	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
7	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
8	Revision and Test	
9	Disposal of company profits	
10	Accounts of Banking Companies	
11	Accounts of Banking Companies	
12	Accounts of Banking Companies	
13	Accounts of Banking Companies	
14	Revision and Test	
15	Discussions on Important questions and answers	
16	Holding & Subsidiary Company-Introduction with examples, Sub-Subsidiary Co., Types of Sub-Subsidiary Co.	Unit-V
17	Consolidated Financial statements, techniques in CFS	
18	Computation of Cost of Control/Goodwill/ Capital Reserve, Minority Interest- Meaning, Concept, Example, Computation, Practical	
19	Pre-acquisition, Post-acquisition profit, Intra Group Transactions, Abnormal Losses, Fictitious Assets Meaning, Treatment	
20	Practical on Mutual Owings Loans & Advances, Debentures & Interest in Debentures, Interest Outstanding & accrued interest	
21	Unrealised Profit, Bonus Shares-Meaning, Treatment, Practical, Preference Shares, Revaluation of Assets Meaning, Treatment, Practical	
22	Preparation of consolidated balance sheet with one subsidiary company	

23	Preparation of consolidated balance sheet with one subsidiary company	
24	Relevant provisions of Accounting Standard: 21(ICAI)	
25	Discussions on Important Questions and Answers	

Course – Speciality
Class/Semester- B. Com 4th Sem
Name of the Paper- COST ACCOUNTING
Units Assigned- II
Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Materials: Material/Inventory control techniques	Unit-II
2.	Accounting and control of purchases, storage and issue of materials	
3	Methods of pricing of material issues-FIFO, LIFO	
4	Simple Average, Weighted Average	
5	Replacement cost, Standard cost, treatment of material losses	
6	Labour: Concept, Accounting and Control of Labour cost, Time keeping and time booking	
7	Concept and treatment of idle time, over-time, labour turnover and fringe benefits	
8	Methods of Wage payment and incentive schemes- definition and explanation	
9	Halsey, Rowan, Taylor's Differential piece wage-Explanation with formulae, Practical	
10	Revision and Test	

Course – Speciality
Class/Semester- B. Com 4th Sem
Name of the Paper- AUDITING
Units Assigned- II
Marks Assigned- 20

Class	Topic/Unit	Remarks
1	Audit of limited Companies – Qualification and appointment of company auditor	Unit-III
2	Qualification and appointment of company auditor, Power & Duties	
3	Powers, duties and liabilities	
4	Audit of share capital and debentures	
5	Audit of share capital and debentures	
6	Share transfers and managerial remuneration	
7	Depreciation and reserves	
8	Divisible profits and dividends	
9	Audit of Public undertakings	
10	Revision and Test	

Course – Speciality
Class/Semester- B. Com 6th Sem
Name of the Paper- DIRECT TAX-II
Units Assigned- I & II
Marks Assigned- 20+20=40

Class	Topic/ Unit	Remarks
1.	Income under the head Profits and Gains of Business- Meaning of Business, Profession and Profits	Unit-I
2	Chargeability, Computation of income from business.	
3	Computation of income from business	
4	Computation of income from business	
5	Computation of income from Profession	
6	Computation of income from Profession	
7	Admissible deduction, inadmissible deduction u/s 40,	
8	Payment not deductible under certain circumstances u/s 40A, Treatment of depreciation under Income tax Act.	
9	Doubt Clearing Sessions	
10	Discussions on Important questions and answers	
11	Income from Capital Gains- Chargeability, Capital Assets, Long term and Short-Term Capital Assets, Meaning of transfer.	Unit-II
12	Transactions not regarded as Transfer, Mode of computation of capital assets.	
13	Computation of Income from Capital Gains	
14	Computation of Income from Capital Gains	
15	Computation of Income from Capital Gains	
16	Ascertainment of cost in certain circumstances section 49, cost of improvement and cost of acquisition	
17	Income from other sources- income chargeable under this head	
18	Allowable and not allowable deductions, deemed income chargeable to tax.	
19	Doubt Clearing Session	
20	Discussions on Important questions and answers	

Course – Speciality
Class/Semester- B. Com 6th Sem
Name of the Paper- INDIAN FINANCIAL SYSTEM
Units Assigned- I
Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Financial Market- Concept, Types, Brief History	Unit-III
2.	Primary Market-Concept, Explanation and Notes	
3	Primary Market-Concept, Explanation and Notes	
4	Secondary Market-Concept, Explanation and Notes	
5	Secondary Market-Concept, Explanation and Notes	
6	Stock Exchange-Role, functions;	

7	Services of Merchant-Banks, underwriters,	
8	Concept of Marketable and Non-Marketable Securities	
9	Doubt Clearing Session	
10	Discussion on Important questions and answers	

Course – Speciality
Class/Semester- B. Com 6th Sem
Name of the Paper- FINANCIAL STATEMENT ANALYSIS
Units Assigned- I+IV
Marks Assigned- 20+10=30

Class	Topic/ Unit	Remarks
1.	Financial statement Analysis, Meaning, Significance,	Unit-I
2	Types and Limitation of Financial Statements, Accounting Choices/Practices,	
3.	Types and Limitation of Financial Statements, Accounting Choices/Practices,	
4	Comparative Statement	
5	Comparative Statement	
6	Common Size Statement	
7	Common Size Statement	
8	Value Added Statement and Economic Value-added Statements	
9	Revision and Test	
10	Discussion on important question and answers	
11	RBI Guidelines	Unit-IV
12	RBI Guidelines	
13	IRDA Guidelines	
14	IRDA Guidelines	
15	Revision and Test	

Course – Core
Class/Semester- B. Com 6th Sem
Name of the Paper- Basics of Academic Project Preparation
Units Assigned- II
Marks Assigned- 20

Class	Topic/Unit	Remarks
1	Data Collection: Concept Explanation with relevant examples	Unit-II
2	Data Collection: Concept Explanation with relevant examples	
3	Types of Data	
4	Secondary Data-types of secondary data; sources of secondary data	
5	Primary Data-types of interview	
6	Role of interview in data collection,	
7	Interview skills and interviewer's effect	
8	Examples from Research papers	
9	Examples from Research Papers	
10	Revision and Test	

Course – Non-Honours
Class/Semester- B. Com 6th Sem
Name of the Paper- Small Business Management
Units Assigned- III
Marks Assigned- 20

Class	Topic/Unit	Remarks
1	Financial Management – nature of financial requirement for small enterprises	Unit-III
2	Fixed capital – Concepts and their sources	
3	Working Capital-Concept and their sources	
4	Working capital – meaning, operating cycles	
5	Significance and Determinants of Working Capital	
6	Assessment of working capital requirements	
7	Simple practical problem solution relating to small business	
8	Simple practical problem solution relating to small business	
9	Simple practical problem solution relating to small business	
10	Revision and Test	

Course – Non-Honours
Class/Semester- B. Com 6th Sem
Name of the Paper- International Business
Units Assigned- I & II
Marks Assigned- 20+20=40

Class	Topic/Unit	Remarks
1	India's Foreign Trade: Trends and Developments	Unit-I
2	India's Foreign Trade: Trends and Developments	
3	India's Foreign Trade: Trends and Developments	
4	Commodity composition and direction	
5	Commodity composition and direction	
6	Commodity composition and direction	
7	India's Foreign Trade in global context	
8	India's Foreign Trade in global context	
9	India's Foreign Trade in global context	
10	Revision and Test	
11	Foreign Trade Policy and control in India	Unit-II
12	Foreign Trade Policy and control in India	
13	Foreign Trade Policy and control in India	
14	Foreign Trade Policy and control in India	
15	Foreign Trade Policy and control in India	
16	Policy making body and Institutions; Exchange control in India – objectives and definition	
17	Policy making body and Institutions; Exchange control in India – objectives and definition	
18	Policy making body and Institutions; Exchange control in India – objectives and definition	
19	Policy making body and Institutions; Exchange control in India – objectives and definition	
20	Revision and Test	

Course – Honours (CBCS)
Class/Semester- B. Com 1st Sem
Name of the Paper- FINANCIAL ACCOUNTING
Units Assigned- II & V
Marks Assigned- 25+15=40

Class	Topic/ Unit	Remarks
1.	Measurement of business income-Net income: the accounting period, the continuity doctrine	Unit-I(a)
2.	Matching concept. Objectives of measurement.	
3.	Revenue recognition: Recognition of expenses.	
4.	The nature of depreciation. The accounting concept of depreciation. Factors in the measurement of depreciation	
5.	Methods of computing depreciation: straight-line method and diminishing balance method; Disposal of depreciable assets-change of method.	
6.	Methods of computing depreciation: straight-line method and diminishing balance method; Disposal of depreciable assets-change of method.	
7.	Final Accounts- Capital and revenue expenditures and receipts: general introduction only	Unit-I (b)
8.	Preparation of financial statements of non-corporate business entities- Explanation of Format	
9.	Practical on financial statements of non-corporate business entities	
10.	Practical on financial statements of non-corporate business entities	
11.	Practical on financial statements of non-corporate business entities- GST	
12.	Practical on financial statements of non-corporate business entities- GST	
13.	Revision and Test	Unit-V
14.	Accounting of Dissolution of the Partnership Firm-Introduction and detailed discussion	
15.	Practical on Accounting of Dissolution of the Partnership Firm	
16.	Practical on Accounting of Dissolution of the Partnership Firm	
17.	Insolvency of partners	
18.	Insolvency of partners	
19.	Sale to a limited company	
20.	Sale to a limited company	
21.	Piecemeal distribution	
22.	Piecemeal distribution	
23.	Revision and Test	
24.	Discussion on important questions and answers	

Course – Generic (CBCS)
Class/Semester- B. Com 3rd Sem
Name of the Paper- BUSINESS STATISTICS
Units Assigned- I
Marks Assigned- 10

Class	Topic/ Unit	Remarks
1.	Unit 1: Statistical Data and Descriptive Statistics a. Nature and Classification of data: univariate, bivariate and multivariate	

	data; time-series and cross-sectional data. Measures of Central Tendency-Mathematical averages of arithmetic mean-Introduction	Unit-I
2	Measures of Central Tendency-Mathematical averages of arithmetic mean, geometric mean and harmonic mean. Properties and applications.	
3	Positional Averages Mode and Median (and other partition values including quartiles, deciles, and percentiles) (including graphic determination)	
4	Positional Averages Mode and Median (and other partition values including quartiles, deciles, and percentiles) (including graphic determination)	
5	Measures of Variation: absolute and relative. Range, quartile deviation, mean deviation	
6	Standard deviation, and their coefficients, Properties of standard deviation/variance	
7	Skewness: Meaning, Measurement using Karl Pearson and Bowley's measures; Concept of Kurtosis.	
8	Doubt Clearing Session	

Course – Skill Enhancement Course (CBCS)

Class/Semester- B. Com 3rd Sem

Name of the Paper- E-COMMERCE

Units Assigned- V

Marks Assigned- 8

Class	Topic/ Unit	Remarks
1.	On-line Business Transactions Meaning, purpose, advantages and disadvantages of transacting online	Unit-V
2.	E-commerce applications in various industries like {banking, insurance, payment of utility bills, online marketing, e-tailing (Popularity, benefits, problems and features)}	
3	E-commerce applications in various industries like {banking, insurance, payment of utility bills, online marketing, e-tailing (Popularity, benefits, problems and features)}	
4	Online services (financial, travel and career)	
5	Auctions, online portal, online learning, publishing and entertainment}	
6	Online shopping (amazon, snapdeal, flipkart, etc.)	
7	Online shopping (amazon, snapdeal, flipkart, etc.)	
8	Group Discussions	
9	Revision and Test	

Course –Speciality
Class/Semester- B. Com 5th Sem
Name of the Paper- ENTREPRENEURSHIP DEVELOPMENT
Units Assigned- I & II
Marks Assigned-20+20= 40

Class	Topic/ Unit	Remarks
1.	Concept and definition of entrepreneur and entrepreneurship	Unit-I
2	Growth of Entrepreneurs and Entrepreneurship over the decades	
3	Role in Global context	
4	Problems, Challenges, Opportunities	
5	Types of Entrepreneurs	
6	Types of Entrepreneurs	
7	Types of Entrepreneurs	
8	Case Studies of Entrepreneurs in India	
9	Case Studies of Entrepreneurs in Assam	
10	Revision and Test	
11.	Entrepreneurship and economic development,	Unit-II
12	Women Entrepreneur, and their participation	
13	Problems of women entrepreneurship in Assam.	
14	Emergence of Women entrepreneurship in national and global perspective	
15	Case Studies of Women Entrepreneurs	
16	Opportunities and challenges of women entrepreneurship	
17	Opportunities and challenges of women entrepreneurship	
18	Concept, role, problems and prospects of rural entrepreneurship	
19	Concept, role, problems and prospects of rural entrepreneurship	
20	Revision and Test	
21	Project Work-Guidelines Topic Selection, Group Formation, Presentation	Internal Assessment

Course – Speciality
Class/Semester- B. Com 5th Sem
Name of the Paper- MANAGEMENT ACCOUNTING
Units Assigned- III & IV
Marks Assigned- 20+20=40

Class	Topic/ Unit	Remarks
1	Absorption & Marginal Costing: Concept, Explanation & Discussion	Unit-III
2	Absorption & Marginal Costing: Concept, Explanation & Discussion	
3	Marginal & differential costing as a tool for decision making –making or buy;	
4	Marginal & differential costing as a tool for decision making –making or buy;	
5	Marginal & differential costing as a tool for decision making –making or buy;	
6	Marginal & differential costing as a tool for decision making –making or buy;	
7	Marginal & differential costing as a tool for decision making –making or buy;	

8	Revision and Test	
9	Change of product mix; Pricing;	
10	Change of product mix; Pricing;	
11	Break-even analysis	
12	Break-even analysis	
13	Break-even analysis	
14	Exploring new markets; Shutdown decisions.	
15	Overall Doubt Clearing Session	
16	Revision and Test	
17.	Budgeting for profit Planning and Control: Meaning of budget and budgetary control, Objectives	Unit-IV
18	Types of budgets-Notes and Explanation	
19	Practical on different budgets	
20	Practical on different budgets	
21	Practical on different budgets	
22	Practical on different budgets	
23	Practical on different budgets	
24	Revision and Test	
25	Fixed and Flexible Budgeting	
26	Functional Budgeting	
27	Control Ratios	
28	Zero-Based Budgeting with examples	
29	Responsibility Accounting with examples	
30	Performance Budgeting with examples	
31	Overall Doubt Clearing Session	
32	Revision and Test	

COURSE PLAN 2021**Name of the Teacher- Ms. Murchana Gogoi****Course – Honours (CBCS)****Class/Semester- B. Com 2nd Sem****Name of the Paper- CORPORATE ACCOUNTING****Units Assigned- III & IV****Marks Assigned- 20+12=32**

Class	Topic/ Unit	Remarks
1.	Preparation of profit and loss account and balance sheet of corporate entities- Introduction with required formats	Unit-III
2	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
3	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
4	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
5	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
6	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
7	Preparation of profit and loss account and balance sheet of corporate entities- Treatment, adjustments, Practical and Explanation	
8	Revision and Test	
9	Disposal of company profits	
10	Accounts of Banking Companies	
11	Accounts of Banking Companies	
12	Accounts of Banking Companies	
13	Accounts of Banking Companies	
14	Revision and Test	
15	Discussions on Important questions and answers	
16	Holding & Subsidiary Company-Introduction with examples, Sub-Subsidiary Co., Types of Sub-Subsidiary Co.	Unit-V
17	Consolidated Financial statements, techniques in CFS	
18	Computation of Cost of Control/Goodwill/ Capital Reserve, Minority Interest- Meaning, Concept, Example, Computation, Practical	
19	Pre-acquisition, Post-acquisition profit, Intra Group Transactions, Abnormal Losses, Fictitious Assets Meaning, Treatment	
20	Practical on Mutual Owings Loans & Advances, Debentures & Interest in Debentures, Interest Outstanding & accrued interest	
21	Unrealised Profit, Bonus Shares-Meaning, Treatment, Practical, Preference Shares, Revaluation of Assets Meaning, Treatment, Practical	
22	Preparation of consolidated balance sheet with one subsidiary company	
23	Preparation of consolidated balance sheet with one subsidiary company	
24	Relevant provisions of Accounting Standard: 21(ICAI)	
25	Discussions on Important Questions and Answers	

Course – Honours (CBCS)
Class/Semester- B. Com 4th Sem
Name of the Paper- COST ACCOUNTING
Units Assigned- II
Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Materials: Material/Inventory control techniques	Unit-II
2.	Accounting and control of purchases, storage and issue of materials	
3	Methods of pricing of material issues-FIFO, LIFO	
4	Methods of pricing of material issues-FIFO, LIFO	
5	Simple Average, Weighted Average	
6	Replacement cost, Standard cost, treatment of material losses	
7	Labour: Concept, Accounting and Control of Labour cost, Time keeping and time booking	
8	Concept and treatment of idle time, over-time, labour turnover and fringe benefits	
9	Methods of Wage payment and incentive schemes- definition and explanation	
10	Halsey, Rowan, Taylor's Differential piece wage-Explanation with formulae	
11	Halsey, Rowan, Taylor's Differential piece wage-Practical	
12	Revision and Test	
13	Discussion on important questions and answers	

Course – Speciality
Class/Semester- B. Com 6th Sem
Name of the Paper- DIRECT TAX-II
Units Assigned- I & II
Marks Assigned- 20+20=40

Class	Topic/ Unit	Remarks
1.	Income under the head Profits and Gains of Business- Meaning of Business, Profession and Profits	Unit-I
2	Chargeability, Computation of income from business.	
3	Computation of income from business	
4	Computation of income from business	
5	Computation of income from Profession	
6	Computation of income from Profession	
7	Admissible deduction, inadmissible deduction u/s 40,	
8	Payment not deductible under certain circumstances u/s 40A, Treatment of depreciation under Income tax Act.	
9	Doubt Clearing Sessions	
10	Discussions on Important questions and answers	
11	Income from Capital Gains- Chargeability, Capital Assets, Long term and Short-Term Capital Assets, Meaning of transfer.	Unit-II
12	Transactions not regarded as Transfer, Mode of computation of capital assets.	
13	Computation of Income from Capital Gains	

14	Computation of Income from Capital Gains	
15	Computation of Income from Capital Gains	
16	Ascertainment of cost in certain circumstances section 49, cost of improvement and cost of acquisition	
17	Income from other sources- income chargeable under this head	
18	Allowable and not allowable deductions, deemed income chargeable to tax.	
19	Revision and Test	
20	Discussions on Important questions and answers	

Course – Speciality
Class/Semester- B. Com 6th Sem
Name of the Paper- INDIAN FINANCIAL SYSTEM
Units Assigned- I
Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Financial Market- Concept, Types, Brief History	Unit-III
2.	Primary Market-Concept, Explanation and Notes	
3	Primary Market-Concept, Explanation and Notes	
4	Secondary Market-Concept, Explanation and Notes	
5	Secondary Market-Concept, Explanation and Notes	
6	Stock Exchange-Role, functions;	
7	Services of Merchant-Banks, underwriters,	
8	Concept of Marketable and Non-Marketable Securities	
9	Revision and Test	
10	Discussion on Important questions and answers	

Course – Speciality
Class/Semester- B. Com 6th Sem
Name of the Paper- FINANCIAL STATEMENT ANALYSIS
Units Assigned- I
Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Financial statement Analysis, Meaning, Significance,	Unit-I
2	Types and Limitation of Financial Statements, Accounting Choices/Practices,	
3.	Types and Limitation of Financial Statements, Accounting Choices/Practices,	
4	Comparative Statement	
5	Comparative Statement	
6	Common Size Statement	
7	Common Size Statement	
8	Value Added Statement and Economic Value-added Statements	
9	Revision and Test	

10	Discussion on important question and answers	

Course – Honours (CBCS)
Class/Semester- B. Com 1st Sem
Name of the Paper- FINANCIAL ACCOUNTING
Units Assigned- II & V
Marks Assigned- 25+15=40

Class	Topic/ Unit	Remarks
1.	Measurement of business income-Net income: the accounting period, the continuity doctrine	Unit-I(a)
2.	Matching concept. Objectives of measurement.	
3.	Revenue recognition: Recognition of expenses.	
4.	The nature of depreciation. The accounting concept of depreciation. Factors in the measurement of depreciation	
5.	Methods of computing depreciation: straight-line method and diminishing balance method; Disposal of depreciable assets-change of method.	
6.	Methods of computing depreciation: straight-line method and diminishing balance method; Disposal of depreciable assets-change of method.	
7.	Final Accounts- Capital and revenue expenditures and receipts: general introduction only	Unit-I (b)
8.	Preparation of financial statements of non-corporate business entities- Explanation of Format	
9.	Practical on financial statements of non-corporate business entities	
10.	Practical on financial statements of non-corporate business entities	
11.	Practical on financial statements of non-corporate business entities- GST	
12.	Practical on financial statements of non-corporate business entities- GST	
13.	Doubt Clearing Session	Unit-V
14.	Accounting of Dissolution of the Partnership Firm-Introduction and detailed discussion	
15.	Practical on Accounting of Dissolution of the Partnership Firm	
16.	Practical on Accounting of Dissolution of the Partnership Firm	
17.	Insolvency of partners	
18.	Insolvency of partners	
19.	Sale to a limited company	
20.	Sale to a limited company	
21.	Piecemeal distribution	
22.	Piecemeal distribution	
23.	Revision and Test	
24.	Discussion on important questions and answers	

Course – Honours (CBCS)
Class/Semester- B. Com 3rd Sem
Name of the Paper- INCOME TAX LAW & PRACTICE
Units Assigned- I & II

Marks Assigned- 10+12=22

Class	Topic/ Unit	Remarks
1.	Basic concepts: Income, agricultural income, person, assessee, assessment year, previous year,	Unit-I
2	Gross total income, total income, Maximum Marginal rate of tax; Permanent Account Number (PAN)	
3	Residential status	
4	Practical on Residential Status	
5	Practical on Residential Status	
6	Scope of total income on the basis of residential status	
7	Exempted income under section 10.	
1.	Income from house property-Introduction, Basis of Charge, Income under HP	Unit-II
2.	Determination of Annual Value	
3.	Determination of Annual Value	
4.	Practical on House Property	
5.	Practical on House Property	
6.	Practical on House Property	
7.	Revision and Test	
8	Discussion of Important questions and answers	

Course – Honours (CBCS)**Class/Semester- B. Com 3rd Sem****Name of the Paper- BUSINESS STATISTICS****Units Assigned- I****Marks Assigned- 10**

Class	Topic/ Unit	Remarks
1.	Unit 1: Statistical Data and Descriptive Statistics a. Nature and Classification of data: univariate, bivariate and multivariate data; time-series and cross-sectional data. Measures of Central Tendency-Mathematical averages of arithmetic mean-Introduction	Unit-I
2	Measures of Central Tendency-Mathematical averages of arithmetic mean, geometric mean and harmonic mean. Properties and applications.	
3	Positional Averages Mode and Median (and other partition values including quartiles, deciles, and percentiles) (including graphic determination)	
4	Positional Averages Mode and Median (and other partition values including quartiles, deciles, and percentiles) (including graphic determination)	
5	Measures of Variation: absolute and relative. Range, quartile deviation, mean deviation	
6	Standard deviation, and their coefficients, Properties of standard deviation/variance	
7	Skewness: Meaning, Measurement using Karl Pearson and Bowley's	

	measures; Concept of Kurtosis.	
8	Revision and Test	

Course – Honours (CBCS)
Class/Semester- B. Com 5th Sem
Name of the Paper- FINANCIAL MANAGEMENT
Units Assigned- II
Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Management of Working Capital-Working Capital- concept, need	Unit-II
2	Examples from various industries	
3	Determinants of Working Capital	
4	Determinants of Working Capital	
5	Estimation of working capital	
6	Practical on estimation of Working Capital	
7	Practical on estimation of Working Capital	
8	Practical on estimation of Working Capital	
9	Practical on estimation of Working Capital	
10	Practical on estimation of Working Capital	
11	Revision and Doubt Clearing Session	
12	Group Discussion	
13	Sources of Working Capital	
14	Sources of Working Capital	
15	Revision and Test	
16	Discussion of Important questions and answers	

Course – DSE (CBCS)
Class/Semester- B. Com 5th Sem
Name of the Paper- MANAGEMENT ACCOUNTING
Units Assigned- IV
Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Budgeting for profit Planning and Control: Meaning of budget and budgetary control, Objectives	Unit-IV
2	Types of budgets-Notes and Explanation	
3	Practical on different budgets	
4	Practical on different budgets	
5	Practical on different budgets	
6	Practical on different budgets	
7	Practical on different budgets	
8	Fixed and Flexible Budgeting	
9	Functional Budgeting	
10	Control Ratios	
11	Zero-Based Budgeting with examples	
12	Responsibility Accounting with examples	

13	Performance Budgeting with examples	
14	Revision and Test	
15	Assignment of Project Work (includes group formation, topic selection and field survey)	Internal Assessment Project
16	Presentation on the project work	

Course – DSE
Class/Semester- B. Com 5th Sem
Name of the Paper- ADVANCED FINANCIAL ACCOUNTING
Units Assigned- III
Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	General Insurance-Introduction	Unit-III
2.	Schedules of General Insurance-Notes and Explanation	
3.	Preparation of Revenue Account-Explanation with Example	
4.	Practical on Revenue Account of General Insurance Companies	
5.	Practical on Revenue Account of General Insurance Companies	
6.	Revision and Doubt Clearing Session	
7.	Explanation on Profit & Loss Account of General Insurance Companies	
8.	Practical on Profit & Loss Account of General Insurance Companies	
9.	Practical on Profit & Loss Account of General Insurance Companies	
10.	Explanation on Balance Sheet of General Insurance Companies	
11.	Practical on Balance Sheet of General Insurance Companies	
12.	Practical on Balance Sheet of General Insurance Companies	
13.	Revision and Test	
14.	Discussion of Important questions and answers	
15.	Assignment of Project Work (includes group formation, topic selection and field survey)	Internal Assessment Project
16.	Presentation on the project work	

Digboi College, Digboi

Course Plan

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 1st Semester (H)

Name of the Paper: Financial Accounting.

Units Assigned: IV & Tally

Paper code: C-101

Class	Topic/Units	Remarks
1	Introduction to Branch	Explanations
2	Objective of Branch Accounting	Explanations
3	Types of Branches	Explanations
4	Concept of dependent branches,	Explanations
5	Accounting aspects.	Explanations
6	Goods-in-transit, Cash-in Transit/Remittance in transit, inter branch transfer, Normal loss, Abnormal Loss.	Explanations with notes given
7	Journal Entries in the Books of Head Office Under Debtors or Synthetic system	Explanations with notes given
8	Missing figure relating to petty cash/branch stock.	Notes.
9	Stock & Debtors system.	Explanations
10	Branch final Account System	Explanations
11	Whole sale basis system.	Explanations
12	Independent branches	Explanations and notes
13	Concept Accounting treatment	Explanations and notes
14	Important adjustment entries	Explanations and notes
15	Preparation of consolidated profit and loss account and balance sheet.	Explanations
16	Objectives of sending Goods to branches at invoice price/ selling price	Notes
17	Problem solving from question paper	Notes
18	Final examination question paper 2011, 2012, 2013	Problem solved and discussed
19	Final examination question paper: 2014, 2015, 2016	Problem solved and Explanations.

Digboi College, Digboi

Course Plan

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 2nd Semester (H)

Name of the Paper: Corporate Accounting.

Units Assigned: IV

Paper code: C-203

Mark Assigned=14

Class	Topic/Units	Remarks
1	Meaning of Amalgamation, Absorption and Reconstruction	Explanations
2	Objectives of Amalgamation	Explanations
3	Types of Amalgamation.	Explanations
4	Concepts and accounting treatment as per Accounting Standard:14 (ICAI)	Explanations
5	Accounting entries of Transferor Company	Explanations
6	Accounting entries of Transferee Company	Explanations with notes given
7	Purchase considerations.	Notes
8	Intrinsic value Method, Net worth (or Net assets) method	Notes
9	Net payment method & share Exchange Method	Explanations
10	Practical question solved (Transferee Company)	Explanations
11	Practical question solved (Transferor Company)	Explanations
12	Meaning of Internal Reconstruction	Explanations with notes given
13.	Accounting treatment of internal reconstruction	Explanations
14	Alteration of share capital	Explanations
15	Increase/decrease share capital,	Explanations
16	Procedure of capital Reduction.	Explanations
17	Reduction of share capital under section 100 to 105.	Explanations

Digboi College, Digboi

Course Plan

(From June, 2020 –December. 2021)

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 3rd Semester (H)

Name of the Paper: Income Tax Law & Practices.

Units Assigned: I, II, V

Paper code: C-306

Marks Assigned: 35

Class	Topic/Units	Remarks
1	An overview of income tax	Explanations
2	Basic concepts: Income, Agricultural income,	Explanations
3	Person and Assessee	Notes with Explanations
4	Assessment year, Previous year, Gross total income.	Explanations
5	Total income, Maximum marginal rate of tax.	Explanations
6	Revised Gross total income and total income PAN(Permanent Account Number)	Explanations with notes given
7	Residential status: Assessment year, Nationality, Physical Presence.	Explanations with notes given
8	Testing the fulfilment of Basic conditions and additional conditions.	Notes.
9	Income exempted under section 10	Explanations with notes.
10	Income from salary: Meaning of Salary, Gross Salary.	Explanations
11	Basic Salary, Gross Salary and Net Salary.	Explanations
12	Profits in Lieu of Salary, Gratuity.	Explanations and notes
13	Pension, Annuity	Explanations and notes
14	Leave Encashment Sec 10 (10AA)	Explanations and notes
15	Allowances to employees: Fully Exempted Allowances, Partly Exempted Allowances Fully Taxable Allowances.	Explanations
16	HRA: Allowances.	Notes
17	Perquisites: Example of perquisites.	Notes
18	Perquisites Exempted from Tax.	Problem solved and discussed
19	Perquisites Taxable for All Employees.	Problem solved and Explanations.
20	Rent free House: Furnished and Unfurnished Accommodation.	Explanations and notes
21	Entertainment Allowances.	Explanations and notes
22	Valuation of perquisites in respect of Motor Car.	Explanations and notes

23	Deduction on account of Professional Tax Paid.	Explanations
24	Standard deduction Section -16(ia).	Notes
25	Income From house property.	Notes
26	Introduction to House Property, Essential Conditions of House Property.	Problem solved and discussed
27	Types of Income from house property not chargeable to Tax.	Problem solved and Explanations.
28	Meaning of Annual Value.	Explanations and notes
29	Gross Annual Value	Explanations and notes
30	Determination net Annual Value.	Explanations and notes
31	Treatment of Unrealised rent.	Explanations
32	Interest on loan taken or money borrowed for the property.	Notes
33	Interest for preconstruction periods.	Notes
34	For House property Self occupied for Residential Purposes	Problem solved and discussed

Digboi College, Digboi

Course Plan

Name of the Paper: Cost Accounting.

Units Assigned: I & IV

Paper code: 408

Mark Assigned=16

Class	Topic/Units	Remarks
1	Meaning of cost accounting and various objectives of cost accounting	Explanations
2	Advantages of cost accounting	Explanations
3	Difference between cost Accounting and financial Accounting	Explanations
4	Cost Concepts and classifications	Explanations
5	Elements of cost	Explanations
6	Installation of costing system	Explanations with notes given
7	Role of a cost accountant in an organization	Explanations with notes given
8	What is a cost sheet? what are its advantages	Notes.
9	Cost sheet with imaginary figures	Explanations
10	Practical question solved of Cost sheet.	Explanations
11	Method of costing	Explanations
12	Meaning of Unit costing job costing contract costing.	Explanations and notes
13	Process costing	Explanations and notes
14	Explain the different techniques of costing	Explanations and notes
15	Service costing.	Explanations
16	Difference between job costing and process costing	Notes
17	Problem solving from question paper	Notes
18	Final examination question paper 2011, 2012, 2013	Problem solved and discussed

19	Final examination question paper: 2014, 2015, 2016	Problem solved and Explanations.

Digboi College, Digboi

Course Plan

(From June, 2020 –December. 2021)

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 5th Semester (H)

Name of the Paper: Financial Management

Units Assigned: I

Paper code: C-512

Mark Assigned: 20

Class	Topic	Remarks
1	Introduction to Financial Management	Explanations
2	Objectives of Financial Management	Explanations
3	Scope of Financial Management	Explanations
4	Nature of Financial Management	Explanations
5	Business functions of a Manufacturing Company.	Notes
6	Importance of financial management.	Explanations
7	Functions of financial management	Explanations with notes given
8	Approaches to Finance Function: 1. Traditional Approach. 2. The Modern Approach.	Explanations with notes given
9	Financial Decision: Investment, Financing, Dividend.	Notes.
10	Profit Maximization Vs Wealth Maximization	Explanations
11	Role of a financial Manager	Explanations
12	Responsibilities of a Financial Manager	Explanations
13	Inter-relation of Financial decision.	Explanations and notes
14	Factors influencing financial decisions.	Explanations and notes
15	Financial Management process.	Explanations and notes
16	Functional areas of financial Management.	Explanations

Digboi College, Digboi

Course Plan

(From June, 2020 –December. 2021)

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 5th Semester (H)

Name of the Paper: Management Accounting

Units Assigned:

Paper code: DSE-501

Mark Assigned: 20

Class	Topic	Remarks
1	Meaning of Cash flow & Cash flow statement	Explanations
2	Nature of Cash flow statement	Explanations
3	Benefits or uses of cash flow statement.	Explanations
4	Limitation of Cash Flow statement	Explanations
5	Classification of Cash flow statement	Explanations
6	Examples of inflows from operating Activities.	Explanations with notes given
7	Examples of Cash outflows from operating activities.	Explanations with notes given
8	Investing Activities, cash inflows arising from investing activities.	Notes.
9	Financial Activities , Cash inflows and outflows from financing activities.	Explanations
10	Non- cash item. Cash Out flows from investing activities.	Explanations
11	Procedure of preparing Cash Flow Statement. Direct ,& indirect method	Explanations
12	Brief discussion on Fund flow statement.	Explanations and notes
13	Sources of Funds & Application of Funds.	Explanations and notes
14	Concept of Flow, need of fund .	Explanations and notes
15	Construction of the fund flow statement.	Explanations
16	Statement of Changes in working capital	Notes
17	Practical Question solved.	Explanations

Digboi College, Digboi

Course Plan

(From June, 2020 –December. 2021)

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 5th Semester (H)

Name of the Paper: Advance Financial Accounting

Units Assigned:

Paper code: DSE-502

Mark Assigned: 20

Class	Topic	Remarks
1	Meaning of Life Insurance Companies.	Explanations
2	Definition and elements of insurance contract, Accounts of Life Insurance Companies.	Explanations
3	Insurance Regulatory & Development Authority	
4	Meaning of Various Insurance terms.	Explanations
5	Books of Accountant maintained under life insurance business	Explanations
6	Ascertainment of profit in life Insurance Business.	Explanations

7	Preparation of Revenue account (Format)	Explanations
8	Explanation of items in the Revenue Account	Explanations
9	Preparation of Balance sheet and Valuation balance sheet of Life Insurance Companies.	Explanations with notes given
10	Discussed of Schedule No: 1 to 4	Notes.
11	Discussed on Revenue Account	Explanations
12	Analysis of Schedule no from 5 to 8.	Explanations
13	Briefly discussed on schedule No 9 to 15	Explanations
14	Practical question solved of Revenue Account	Explanations
15	Practical question solved of Revenue Account and Balance sheet.	Explanations.
16	Question paper discussed on 2014, 2015 , 2016	Explanations

Digboi College, Digboi

Course Plan

(From June, 2020 –December. 2021)

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 5th t Semester (H)

Name of the Paper: Direct Tax.

Units Assigned: I, II, III, IV

Paper code: 504

Class	Topic	Remarks
1	Concept of Direct Tax	Explanations
2	Brief History of Income Tax	Explanations
3	Meaning of Income Tax, Advantages of Income Tax	Explanations
4	Heads of Income (Section 14)	Explanations with notes.
5	Agricultural income, Person	Explanations
6	Assessment year, Previous year	Explanations
7	Gross Total income, Calculation of total income	Explanations
8	Residential Status & Tax Liability	Explanations
9	Concepts of Residential status u/s : 6: Resident and Non-resident	Explanation
10	Residential status of an Assessee (Individual)	Explanations
11	Assessment Year, Nationality and Physical presence.	Explanation
12	Basic conditions and Additional conditions	Explanations
13	Question solved of basic of residential status.	Explanations with notes
14	Hindu undivided family	Explanations
15	Exempted income under section-10	Explanations
16	Meaning of salary	Explanation
17	An overview of income tax	Explanations
18	Basic concepts: Income, Agricultural income,	Explanations
19	Person and Assessee	Explanations
20	Assessment year, Previous year, Gross total income.	Explanations

21	Total income, Maximum marginal rate of tax.	Explanation
22	Revised Gross total income and total income PAN(Permanent Account Number)	Explanations
23	Residential status: Assessment year, Nationality, Physical Presence.	Explanations
24	Testing the fulfilment of Basic conditions and additional conditions.	Explanations
25	Income exempted under section 10	Explanations
26	Income from salary: Meaning of Salary, Gross Salary.	Explanation
27	Basic Salary, Gross Salary and Net Salary.	Explanations
28	Profits in Lieu of Salary, Gratuity.	Explanations
29	Pension, Annuity	Explanations
30	Leave Encashment Sec 10 (10AA)	Explanations
31	Allowances to employees: Fully Exempted Allowances, Partly Exempted Allowances Fully Taxable Allowances.	Explanation
32	HRA: Allowances.	Explanations
33	Perquisites: Example of perquisites.	Explanations
34	Introduction to House Property	Explanations
35	Essential Conditions of House Property.	Explanations
36	Types of Income from house property not chargeable to Tax.	Explanation
37	Meaning of Annual Value.	Explanations
38	Gross Annual Value	Explanations
39	Determination net Annual Value.	Explanations
40	Treatment of Unrealised rent.	Explanations
41	Interest on loan taken or money borrowed for the property.	Explanation
42	Interest for preconstruction periods.	Explanations
43	For House property Self occupied for Residential Purposes	Explanations
44	Direct Tax Authority: Duties and responsibilities of Director	Explanations
45	Powers and functions of various authorities.	Explanations
46	Appeal late authorities including Commissioner of income tax.	Explanations.

Digboi College, Digboi

Course Plan

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 6th Semester (H)

Name of the Paper: Indian Financial system.

Units Assigned: I & IV

Mark Assign=20

Paper code: 603

Class	Topic/Units	Remarks

1	Concept of Financial system	Explanations
2	Elements of Financial system	Explanations
3	Indian financial system	Explanations
4	Characteristics of Financial system.	Explanations
5	An overview of Indian financial system	Explanations
6	Major reforms in Indian Financial system	Explanations with notes given
7	Financial system during post economic liberalization period.	Explanations with notes given
8	Financial system & economic Development	Notes.
9	Function of Financial system	Explanations
10	Financial Institutions	Explanations
11	Financial Markets	Explanations
12	Financial Instruments	Explanations and notes
13	Types of financial services.	Explanations and notes
14	Objectives of Securities and Exchanges Board of India.	Explanations and notes
15	Functions of Securities and Exchange Board of India.	Explanations

Digboi College, Digboi

Course Plan

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 6th Semester (H)

Name of the Paper: Financial Statement Analysis.

Units Assigned: II

Paper code: 602

Mark Assigned=20

Class	Topic/Units	Remarks
1	Meaning of Ratio-Analysis	Explanations
2	Classification of Ratios.	Explanations
3	Liquidity Ratio, Capital structure/leverage ratios	Explanations
4	Profitability ratios/ Activity ratios	Explanations
5	Advantages & Its Limitation of Ratio	Explanations
6	Quick ratio, Acid test ratios	
7	Capital structure/Leverage ratio	Explanations
8	Debt equity ratio, proprietary ratio, interest coverage ratio, Debt service coverage ratio	Explanations
9	Gross profit ratio	
10	Long term and share holders fund.	Explanations
11	Solvency Ratio, Activity Ratio	Explanations
12	Profit & Loss Account Ratio	Explanations with notes given
13	Balance sheet Ratio	Explanations with notes given
14	Composite Ratio	Notes.

(From June, 2020 –December. 2021)

Name of Teacher: Sri Pradip Chandra Das

Course-Honours

Class/Semester 5th t Semester (H)

Name of the Paper: Direct Tax.

Units Assigned: I, II, III, IV

Paper code: 504

Class	Topic	Remarks
1	Concept of Direct Tax	Explanations
2	Brief History of Income Tax	Explanations
3	Meaning of Income Tax, Advantages of Income Tax	Explanations
4	Heads of Income (Section 14)	Explanations with notes.
5	Agricultural income, Person	Explanations
6	Assessment year, Previous year	Explanations
7	Gross Total income, Calculation of total income	Explanations
8	Residential Status & Tax Liability	Explanations
9	Concepts of Residential status u/s : 6: Resident and Non-resident	Explanation
10	Residential status of an Assessee (Individual)	Explanations
11	Assessment Year, Nationality and Physical presence.	Explanation
12	Basic conditions and Additional conditions	Explanations
13	Question solved of basic of residential status.	Explanations with notes
14	Hindu undivided family	Explanations
15	Exempted income under section-10	Explanations
16	Meaning of salary	Explanation
17	An overview of income tax	Explanations
18	Basic concepts: Income, Agricultural income,	Explanations
19	Person and Assessee	Explanations
20	Assessment year, Previous year, Gross total income.	Explanations
21	Total income, Maximum marginal rate of tax.	Explanation
22	Revised Gross total income and total income PAN(Permanent Account Number)	Explanations
23	Residential status: Assessment year, Nationality, Physical Presence.	Explanations
24	Testing the fulfilment of Basic conditions and additional conditions.	Explanations
25	Income exempted under section 10	Explanations
26	Income from salary: Meaning of Salary, Gross Salary.	Explanation
27	Basic Salary, Gross Salary and Net Salary.	Explanations
28	Profits in Lieu of Salary, Gratuity.	Explanations
29	Pension, Annuity	Explanations
30	Leave Encashment Sec 10 (10AA)	Explanations
31	Allowances to employees: Fully Exempted Allowances,	Explanation

	Partly Exempted Allowances Fully Taxable Allowances.	
32	HRA: Allowances.	Explanations
33	Perquisites: Example of perquisites.	Explanations
34	Introduction to House Property	Explanations
35	Essential Conditions of House Property.	Explanations
36	Types of Income from house property not chargeable to Tax.	Explanation
37	Meaning of Annual Value.	Explanations
38	Gross Annual Value	Explanations
39	Determination net Annual Value.	Explanations
40	Treatment of Unrealised rent.	Explanations
41	Interest on loan taken or money borrowed for the property.	Explanation
42	Interest for preconstruction periods.	Explanations
43	For House property Self occupied for Residential Purposes	Explanations
44	Direct Tax Authority: Duties and responsibilities of Director	Explanations
45	Powers and functions of various authorities.	Explanations
46	Appeal late authorities including Commissioner of income tax.	Explanations.

Department of Economics

DIGBOI COLLEGE, DIGBOI**Course Plan****Name of the Teacher: KARUNA PHUKAN****Dept. of Economics****Course – Honours****Class/ Semester-** BA 1st Semester**Name of the Paper-** Mathematical Methods for Economics -I**Units Assigned – 1 and 2****Marks Assigned-** 32 (Excluding Internal Assessment)

Class	Topic/Unit	Remarks
1	Introduction to logic	Unit 1
2	Logical Statement	Unit 1
3	Logical Statement	Unit 1
4	Use of Implication Arrow	Unit 1
5	Use of Implication Arrow	Unit 1
6	Use of if, iff and only if	Unit 1
7	Proof technique	Unit 1
8	Proof technique	Unit 1
9	Number system	Unit 1
10	Doubt clearing class	Unit 1
11	Intervals	Unit 1
12	Set theory	Unit 1
13	Set theory	Unit 1
14	Ordered pairs	Unit 1
15	Cartesian product and relation	Unit 1
16	Functions and their properties	Unit 2
17	Functions and their graphs	Unit 2
18	Types of functions	Unit 2
19	Polynomial and rational function	Unit 2
20	Exponential and logarithmic function	Unit 2
21	Sequences and series: convergence	Unit 2
22	algebraic properties and applications	Unit 2
23	Limit of a function	Unit 2
24	Limit of a function additional examples	Unit 2
25	Left hand limit and right hand limit of a function	Unit 2
26	Continuous functions	Unit 2
27	Checking continuity of a function	Unit 2
28	Checking continuity of a function	Unit 2
29	Continuous functions: characterizations	Unit 2
30	properties with respect to various operations and applications	Unit 2

Course – Honours

Class/ Semester- BA 2nd Semester

Name of the Paper- Mathematical Methods for Economics -II

Units Assigned – 2 and 4

Marks Assigned- 32 (Excluding Internal Assessment)

Class	Topic	Remarks
1	Introduction to Matrix	Unit 1
2	Systems of linear equations	Unit 1
3	Properties of linear equations' solution sets	Unit 1
4	Matrices-elementary operations:	Unit 1
5	matrix addition, product	Unit 1
6	Doubt clearing class	Unit 1
7	rank of a matrix	Unit 1
8	determinants and their properties	Unit 1
9	determinants and their properties	Unit 1
10	inverse of a matrix	Unit 1
11	inverse of a matrix	Unit 1
12	Cramer's rule	Unit 1
13	Application of Cramer's rule for solution of a system of linear equations	Unit 1
14	Application of Cramer's rule for solution of a system of linear equations	Unit 1
15	Doubt clearing class	Unit 1
16	Unconstrained optimization with one variable and Economic Applications	Unit 2
17	Unconstrained optimization with one variable and Economic Applications	Unit 2
18	Unconstrained optimization with one variable and Economic Applications	Unit 2
19	Unconstrained optimization with one variable and Economic Applications	Unit 2
20	Unconstrained optimization with one variable and Economic Applications	Unit 2
21	Unconstrained optimization with one variable and Economic Applications	Unit 2
22	Doubt Clearing Class	Unit 2
23	Unconstrained optimization with more than one variable and Economic Applications	Unit 2
24	Unconstrained optimization with more than one variable and Economic Applications	Unit 2
25	Unconstrained optimization with more than one variable and Economic Applications	Unit 2

26	Unconstrained optimization with more than one variable and Economic Applications	Unit 2
27	Unconstrained optimization with more than one variable and Economic Applications	Unit 2
28	Discriminating Monopoly	Unit 2
29	multiproduct monopoly	Unit 2
30	Doubt Clearing Class	Unit 2

Course – Honours

Class/ Semester- BA 3rd Semester

Name of the Paper- Statistical Methods for Economics

Units Assigned – All five units

Marks Assigned- 80 + 20 (Internal Assessment)

Class	Topic	Remarks
1	Measures of central tendency: Introduction	Unit 1
2	Arithmetic Mean	Unit 1
3	Arithmetic Mean	Unit 1
4	Median	Unit 1
5	Mode	Unit 1
6	Properties of Arithmetic Mean	Unit 1
7	Comparison of Mean, Median and Mode	Unit 1
8	Geometric mean	Unit 1
9	Harmonic Mean	Unit 1
10	Measures of Dispersion : Range	Unit 1
11	Quartile Deviation	Unit 1
12	Mean Deviation	Unit 1
13	Standard Deviation	Unit 1
14	Measures of Skewness and Kurtosis	Unit 1
15	The Concept of Moments	Unit 1
16	Probability: Introduction	Unit 2
17	Concepts of Sample Space and Events	Unit 2
18	Probability of an Event	Unit 2
19	Probability of an Event	Unit 2
20	Probability of an Event	Unit 2
21	Doubt Clearing Class	Unit 2
22	Addition and Multiplication Theorems	Unit 2
23	Addition and Multiplication Theorems	Unit 2
24	Conditional Probability and Independence of Events	Unit 2
25	Conditional Probability and Independence of Events	Unit 2
26	Inverse Probability	Unit 2
27	Inverse Probability	Unit 2
28	Bayes' Rule	Unit 2
29	Mathematical Expectation	Unit 2

30	Mathematical Expectation	Unit 2
31	Concept of a Random Variable	Unit 3
32	Discrete and Continuous Random Variable	Unit 3
33	Probability Mass Function	Unit 3
34	Probability Density Function	Unit 3
35	Mathematical Expectation and Its Properties	Unit 3
36	Mathematical Expectation and Its Properties	Unit 3
37	Theoretical Distributions: Binomial distribution- its properties	Unit 3
38	Theoretical Distributions: Binomial distribution- its properties	Unit 3
39	Theoretical Distributions: Binomial distribution- its properties	Unit 3
40	Poisson distribution-its properties	Unit 3
41	Poisson distribution-its properties	Unit 3
42	Poisson distribution as a limiting case of binomial distribution	Unit 3
43	Poisson distribution as a limiting case of binomial distribution	Unit 3
44	Normal distribution-its properties	Unit 3
45	Normal distribution-its properties	Unit 3
46	Distinction between sampling and census	Unit 4
47	Principal steps in a sample survey	Unit 4
48	Principal steps in a sample survey	Unit 4
49	Errors in statistics: sampling vs. non-sampling errors	Unit 4
50	Errors in statistics: sampling vs. non-sampling errors	Unit 4
51	Errors in statistics: sampling vs. non-sampling errors	Unit 4
52	Methods of sampling	Unit 4
53	Methods of sampling	Unit 4
54	Testing of hypothesis	Unit 4
55	chi square test	Unit 4
56	chi square test	Unit 4
57	chi square test	Unit 4
58	t test	Unit 4
59	t test	Unit 4
60	t test	Unit 4
61	Elementary analysis of linear correlation	Unit 5
62	Covariance	Unit 5
63	Scatter Diagram	Unit 5
64	Karl Pearson's coefficient of correlation–Properties and the Method of Calculation	Unit 5
65	Karl Pearson's coefficient of correlation–Properties and the Method of Calculation	Unit 5
66	Concept of Spearman's Rank Correlation	Unit 5
67	Concept of Spearman's Rank Correlation	Unit 5
68	The Concept of Regression	Unit 5
69	The Concept of Regression	Unit 5
70	Regression Lines and their Estimation in a Bivariate series	Unit 5
71	Regression Lines and their Estimation in a Bivariate series	Unit 5
72	Least Squares Method	Unit 5
73	Least Squares Method	Unit 5
74	The coefficient of determination (R_2)	Unit 5
75	Standard Error of Estimate	Unit 5

Course –Generic

Class/ Semester- BA 3rd Semester

Name of the Paper- Environmental Economics

Units Assigned –3rd Unit

Marks Assigned- 20 (Excluding internal assessment)

Class	Topic	Remarks
1	Non-Market values	Unit 3
2	Types and definitions of non-market values	Unit 3
3	Types and definitions of non-market values	Unit 3
4	Types and definitions of non-market values	Unit 3
5	Measurement or valuation methods	Unit 3
6	Measurement or valuation methods	Unit 3
7	Contingent valuation method	Unit 3
8	Contingent valuation method	Unit 3
9	Contingent valuation method	Unit 3
10	Travel cost methods	Unit 3
11	Travel cost methods	Unit 3
12	Travel cost methods	Unit 3
13	Hedonic Pricing Method	Unit 3
14	Hedonic Pricing Method	Unit 3
15	Comparative advantages and disadvantage	Unit 3
16	Comparative advantages and disadvantage	Unit 3
17	Comparative advantages and disadvantage	Unit 3
18	Existence value of environmental commodities	Unit 3
19	Bequest value of environmental commodities	Unit 3
20	Market value and non-market value	Unit 3

Course – Honours

Class/ Semester- BA 4th Semester

Name of the Paper- Introductory Econometrics

Units Assigned – All five units

Marks Assigned- 80 + 20 (internal assessment)

Class	Topic	Remarks
1	Nature and Scope of Econometrics	Unit 1
2	What is Econometrics?	Unit 1
3	Economic and Econometric Models	Unit 1
4	The Aims of Econometrics.	Unit 1
5	Methodology of Econometrics.	Unit 1
6	Population vs Sample	Unit 1
7	Statistic and parameters	Unit 1
8	Estimate and estimators	Unit 1
9	estimation of parameters – point estimation vs interval estimation	Unit 1
10	properties of estimators	Unit 1
11	Probability Distributions: The Normal distribution	Unit 1
12	Chi-squared, t- and Fdistributions	Unit 1
13	Testing of hypotheses: defining statistical hypotheses	Unit 1
14	distributions of test statistics; testing hypotheses related to population parameters	Unit 1
15	Type I and Type II errors; power of a test, tests for comparing parameters from two samples.	Unit 1
16	Simple Linear Regression Model	Unit 2
17	Simple Linear Regression Model: Two variable case	Unit 2
18	Regression vs Correlation	Unit 2
19	Linearity vs Non-linearity	Unit 2
20	Stochastic specification	Unit 2
21	The significance of the error term	Unit 2
22	Estimation: The Principle of ordinary least squares	Unit 2
23	Assumptions under CLRM	Unit 2
24	BLUE Properties of estimators	Unit 2
25	The Gauss Markov theorem	Unit 2
26	Goodness of fit	Unit 2
27	R-squared	Unit 2
28	R-bar squared	Unit 2
29	Tests of hypotheses	Unit 2
30	Scaling and units of measurement	Unit 2
31	confidence intervals	Unit 2
32	Forecasting	Unit 2
33	k variable linear regression model	Unit 2

34	Estimation of parameters	Unit 2
35	Qualitative (dummy) independent variables	Unit 2
36	Qualitative (dummy) independent variables	Unit 2
37	Qualitative (dummy) independent variables	Unit 2
38	Qualitative (dummy) independent variables	Unit 2
39	Dummy variable trap	Unit 2
40	Dummy variable trap	Unit 2
41	Violations of Classical Assumptions	Unit 3
42	Violations of Classical Assumptions: Consequences	Unit 3
43	Violations of Classical Assumptions: Detection	Unit 3
44	Violations of Classical Assumptions: Remedies	Unit 3
45	Heteroscedasticity	Unit 3
46	Heteroscedasticity: Problem	Unit 3
47	Heteroscedasticity: Problem and consequences	Unit 3
48	Heteroscedasticity: tests	Unit 3
49	Heteroscedasticity: detection	Unit 3
50	Heteroscedasticity: alternative methods of estimation	Unit 3
51	Autocorrelation	Unit 3
52	Autocorrelation: Sources	Unit 3
53	Autocorrelation: consequences	Unit 3
54	tests of autocorrelation	Unit 3
55	remedial measures of autocorrelation	Unit 3
56	Multicollinearity	Unit 4
57	Multicollinearity: Nature of the problem	Unit 4
58	Sources of Multicollinearity	Unit 4
59	Perfect multicollinearity	Unit 4
60	Imperfect multicollinearity	Unit 4
61	Consequences of multicollinearity	Unit 4
62	Consequences of multicollinearity	Unit 4
63	Detection of multicollinearity	Unit 4
64	Detection of Multicollinearity	Unit 4
65	Remedies of multicollinearity	Unit 4
66	Specification Analysis	Unit 5
67	Omission of relevant variables	Unit 5
68	Omission of relevant variables	Unit 5
69	Omission of relevant variables	Unit 5
70	Inclusion of irrelevant variables	Unit 5
71	Inclusion of irrelevant variables	Unit 5
72	Inclusion of irrelevant variables	Unit 5
73	Tests of specification errors	Unit 5
74	Tests of specification errors	Unit 5
75	Errors in variables	Unit 5

Course – Honours

Class/ Semester- BA 5th Semester

Name of the Paper- Indian Economy -I

Units Assigned – 3 units (1st, 3rd and 4th)

Marks Assigned- 60 (Excluding Internal Assessment)

Class	Topics	Remarks
1	Indian Economy on the eve of independence- An overview	Unit 1
2	Indian Economy on the eve of independence- An overview	Unit 1
3	Indian Economy on the eve of independence- An overview	Unit 1
4	Alternative development strategies since independence	Unit 1
5	Alternative development strategies since independence	Unit 1
6	Alternative development strategies since independence	Unit 1
7	goal of self-reliance based on import substitution and protection	Unit 1
8	goal of self-reliance based on import substitution and protection	Unit 1
9	goal of self-reliance based on import substitution and protection	Unit 1
10	the post-1991 globalization strategies based on stabilization and structural adjustment packages	Unit 1
11	the post-1991 globalization strategies based on stabilization and structural adjustment packages	Unit 1
12	the post-1991 globalization strategies based on stabilization and structural adjustment packages	Unit 1
13	the post-1991 globalization strategies based on stabilization and structural adjustment packages	Unit 1
14	An assessment of performance- sustainability and regional contrasts	Unit 1
15	An assessment of performance- sustainability and regional contrasts	Unit 1
16	An assessment of performance- sustainability and regional contrasts	Unit 1
17	Structural transformation of savings and investment	Unit 1
18	Structural transformation of savings and investment	Unit 1
19	Structural transformation of savings and investment	Unit 1
20	Structural transformation of savings and investment	Unit 1
21	Growth and Distribution	Unit 3
22	Poverty- Concept	Unit 3
23	Incidence of Poverty in India	Unit 3
24	Poverty estimates	Unit 3
25	Growth and Poverty	Unit 3
26	Strategy of Poverty Alleviation	Unit 3
27	Inequality- Income inequality in India	Unit 3
28	Income inequality in India: Magnitude and Nature	Unit 3
29	Income inequality in India: Magnitude and Nature	Unit 3
30	Growth and Inequality	Unit 3

31	Causes of income inequality	Unit 3
32	Government policies and measures	Unit 3
33	Government policies and measures to tackle inequality	Unit 3
34	Unemployment- Nature	Unit 3
35	Types of unemployment in India	Unit 3
36	Magnitude of Unemployment	Unit 3
37	Changing dimensions of unemployment and employment	Unit 3
38	Causes of unemployment	Unit 3
39	Government policies and measures to tackle unemployment problem	Unit 3
40	Government policies and measures to tackle unemployment problem	Unit 3
41	International Comparisons	Unit 4
42	India's economic interaction with the world economy	Unit 4
43	India's economic interaction with the world economy	Unit 4
44	India's economic interaction with the world economy	Unit 4
45	A comparative assessment of India's development experience with high performing Asian economies- Singapore	Unit 4
46	A comparative assessment of India's development experience with high performing Asian economies- Singapore	Unit 4
47	A comparative assessment of India's development experience with high performing Asian economies- Singapore	Unit 4
48	A comparative assessment of India's development experience with high performing Asian economies- Singapore	Unit 4
49	A comparative assessment of India's development experience with high performing Asian economies- South Korea	Unit 4
50	A comparative assessment of India's development experience with high performing Asian economies- South Korea	Unit 4
51	A comparative assessment of India's development experience with high performing Asian economies- South Korea	Unit 4
52	A comparative assessment of India's development experience with high performing Asian economies- Taiwan	Unit 4
53	A comparative assessment of India's development experience with high performing Asian economies- Taiwan	Unit 4
54	A comparative assessment of India's development experience with high performing Asian economies- Taiwan	Unit 4
55	A comparative assessment of India's development experience with high performing Asian economies- Taiwan	Unit 4

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DIGBOI COLLEGE, DIGBOICourse PlanName of the Teacher : **SURAJ HAJONG**

Course : Generic

Class/Semester : 1st SemesterName of the Paper : **Micro Economics**

Units Assigned : Full Units

Marks Assigned : 80 marks

Class	Topic/ Unit	Remarks
1.	Marginal and Average Revenue	
2.	Revenue under Perfect and Imperfect Competition	
3.	Elasticity of demand: Price elasticity of demand	
4.	Income and Cross Elasticity of Demand	
5.	Indifference curve and properties of Indifference curve	
6.	Indifference curve analysis of consumer behaviour	
7.	Consumer's Equilibrium	
8.	Price elasticity and price consumption curve	
9.	Income consumption curve and Engel Curve	
10.	Price change and Income effect	
11.	Substitution effect	
12.	Revealed Preference Theory	
13.	Production Isoquant	
14.	Marginal Rate of technical substitution	
15.	Economic region of production	
16.	Optimal combination of resources	
17.	The expansion path	
18.	Isolines and returns to scale using isoquant	
19.	Social and private cost of production	
20.	Long run and short run cost of production	
21.	Economies and dis economies of scale	
22.	Learning Curve	
23.	Economies of scope	
24.	The shape of long run average cost curve	
25.	Perfect competition and properties of perfect competition	
26.	Short run equilibrium of firm and industry under perfect competition	
27.	Long run equilibrium of firm and industry under perfect competition	
28.	Industries long run supply curve	

29.	Measuring producer's surplus under perfect competition	
30.	Walrasian stability analysis	
31.	Marshallian Stability Analysis	
32.	Supply analysis including impact of tax and subsidy	
33.	Concept and features of monopoly	
34.	Short run equilibrium of monopoly firm	
35.	Long run equilibrium of monopoly firm	
36.	Shift in demand curve of monopoly firm	
37.	Absence of supply curve under monopoly	
38.	Measurement of monopoly power	
39.	The rule of thumb for pricing under monopoly	
40.	Horizontal and vertical integration of firms	
41.	The social cost of monopoly power	
42.	Degrees of price discrimination	
43.	Causes of price discrimination under monopoly power	
44.	Similarities and dissimilarities of between monopoly and perfect competition	
45.	Concept and features of monopolistic competition	
46.	Concept and features of oligopoly	
47.	Price and output determination under monopolistic competition	
48.	Short run equilibrium of firm under monopolistic competition	
49.	Long run equilibrium of a firm under monopolistic competition	
50.	Monopolistic competition and economic efficiency	
51.	Cournot's duopoly model	
52.	Stackelberg's model	
53.	Kinked demand model	
54.	Prisoner's dilemma	
55.	Collusive oligopoly	
56.	Price leadership model	
57.	cartels	
58.	Sales maximization	

DIGBOI COLLEGE, DIGBOICourse PlanName of the Teacher : **SURAJ HAJONG**

Course : Generic

Class/Semester : 1st SemesterName of the Paper : **Macro Economics**

Units Assigned : Full Units

Marks Assigned : 80 marks

Class	Topic/ Unit	Remarks
1.	Concept and variables of macro economics	
2.	Circular flow of Income and expenditure	
3.	Components of expenditure	
4.	Static macroeconomics analysis	
5.	Determination of supply	
6.	Determination of demand	
7.	Conditions of equilibrium	
8.	Concept of IS curve and shift in IS curve	
9.	Derivation of IS curve	
10.	Equilibrium in the product market	
11.	The equilibrium in the financial market	
12.	Derivation of LM curve	
13.	The slope and shift in Lm curve	
14.	Equilibrium of both the Goods Market and Money Market	
15.	Criticisms of IS-LM model	
16.	Monetary policy	
17.	Fiscal policy	
18.	Determination of Aggregate demand	
19.	Shift in Aggregate demand	
20.	Aggregate supply in the short and long run	
21.	Aggregate demand- aggregate supply analysis	
22.	Aggregate demand- aggregate supply analysis	
23.	Concept of inflation	
24.	Causes of rising inflation	
25.	Causes of falling inflation	
26.	Inflation and interest rate	
27.	Social cost inflation	

28.	Natural rate of unemployment	
29.	Frictional unemployment and wait unemployment	
30.	Labour market and its interaction with production system	
31.	Labour market and its interaction with production system	
32.	Phillips curve	
33.	Trade off between inflation and unemployment	
34.	Trade off between inflation and unemployment	
35.	Phillips curve	
36.	Sacrifice ratio	
37.	Role of adaptive expectation	
38.	Role of rational expectation	
39.	Concept of open economy	
40.	Flows of goods and capital in open economy	
41.	Savings and investment in a small open economy	
42.	Savings and investment in a large open economy	
43.	Exchange rate	
44.	Mundell Fleming model with fixed and flexible prices in a small open economy	
45.	Interest rate differential cases of large economy	
46.	Mundell Fleming model with fixed and flexible prices in a small open economy	
47.	Investment	
48.	Determinant of business fixed investment	
49.	Effect of tax	
50.	Determinants of residential investment	
51.	Determinants of inventory investment	
52.	Demand for money	
53.	Portfolio and transaction theories of demand for real balance	
54.	Interest and income elasticities of demand for real balance	
55.	Interest and income elasticities of demand for real balance	
56.	Supply of money	

DIGBOI COLLEGE, DIGBOI**Course Plan**

Name of the Teacher : **SURAJ HAJONG**

Course : Honour

Class/Semester : 1st Semester

Name of the Paper : **Indian Economy-I**

Units Assigned : unit-II

Marks Assigned : 20 marks

Class	Topic/ Unit	Remarks
1.	Demographic Features and Trends of India	
2.	Size and growth rate of population in India	
3.	Trends in birth and death rate of India	
4.	Density of population, age and sex composition of India	
5.	Population as a factor of economic development	
6.	Demographic dividend	
7.	National Population Policy	
8.	Human development in India	
9.	Indicators of Human Development	
10.	National Population Policy of India	
11.	Human Development Index	
12.	India's Human Development records in global perspective	
13.	India's Human Development records in global perspective	
14.	Causes of Rapid growth of population in India	
15.	Suggestions for control of high population growth	

DIGBOI COLLEGE, DIGBOICourse PlanName of the Teacher : **SURAJ HAJONG**

Course : Honour

Class/Semester : 1st SemesterName of the Paper : **Money and Financial Market**

Units Assigned : unit-V

Marks Assigned : 15 marks

Class	Topic/ Unit	Remarks
1.	Meaning and types of banking system	
2.	Concept and functions of Commercial Banks	
3.	Credit creation process of Commercial Banks and its limitations	
4.	Balanced sheet	
5.	Portfolio management	
6.	Banking sector reforms	
7.	Functions of Commercial banks	
8.	Meaning and functions of the Central bank	
9.	Objectives of monetary policy	
10.	Indicators of monetary policy	
11.	Quantitative instruments of the Central bank to control the flow of credit	
12.	Qualitative instruments of the Central bank to control the flow of credit	
13.	Monetary management in an open economy	
14.	Current monetary policy of India	
15.		

Course Plan

Name of the teacher: Subhashish Gogoi

Course: Honours/Generic: Honours

Class/Semester: I

Name of the Paper: Introductory Microeconomics

Units Assigned: 1 and 2

Marks Assigned: 32

Sl. No. of Classes	Topic/Unit		Remarks
1	Unit 1	Why study economics?	
2		Scope of economics	
3		Method of economics	
4		Scarcity	
5		Choice	
6		Types of Microeconomic Analysis	Micro static, comparative micro static, micro dynamics
7		Goals of Microeconomics	Growth and Efficiency
8		Central problems of an economy	What, how to produce and how to distribute output
9		Economic Models	
10		Verification of Economic Models	
11		General features of economic models	
12		The basic competitive model	Price, property rights and profit
13		Incentive and information	

14		Rationing, Opportunity sets	
15		Economic systems	Command, Free and Mixed Economic Systems
16	Unit 2	Market and Competition	
17		Determinants of Individual demand	
18		Demand schedule and demand curve	
19		Market vs. Individual demand	
20		Determinants of individual supply	
21		Supply schedule and supply curve	
22		Demand and supply together	
23		How price allocate resources	
24		Elasticity and its application	
25		Controls on prices	
26		Taxes and the cost of taxation	
27		Consumer surplus	
28		Producer surplus	
29		Efficiency of markets	
30		Efficiency of markets	

Name of the teacher: Subhashish Gogoi

Course: Honours/Generic: Generic

Class/Semester: I

Name of the Paper: Introductory Microeconomics

Units Assigned: 2 and 5

Marks Assigned: 32

Sl. No. of Classes	Topic/Unit		Remarks
1	Unit 2	Market and Competition	
2		Determinants of Individual demand	
3		Demand schedule and demand curve	
4		Market vs. Individual demand	
5		Determinants of individual supply	
6		Supply schedule and supply curve	
7		Demand and supply together	
8		How price allocate resources	
9		Elasticity and its application	
10		Controls on prices	
11		Taxes and the cost of taxation	
12		Consumer surplus	
13		Producer surplus	
14		Efficiency of markets	

15		Efficiency of markets	
16	Unit 5	Labour and land markets	
17		Derived demand	
18		Productivity of an input	
19		Marginal productivity of labour	
20		Marginal revenue product	
21		Demand for labour	
22		Input demand curves	
23		Shifts in input demand curves	
24		Competitive labour markets	
25		Competitive labour markets	
26		Labour markets and public policy	
27		Labour markets and public policy	
28		Demand for labour	
29		Input demand curves	
30		Shifts in input demand curves	

Name of the teacher: Subhashish Gogoi

Course: Honours/Generic: Generic

Class/Semester: III

Name of the Paper: Environmental Economics

Units Assigned: 1, 2 and 4

Marks Assigned: 60

Sl. No. of Classes	Topic/Unit		Remarks
1	Unit 1	Economy environment interlinkage	
2		Key environmental issues and problems	
3		Water pollution	
4		Soil pollution	
5		Noise pollution	
6		Deforestation	
7		Air pollution	
8		Desertification	
9		Acid rain	
10		Meaning of externality	
11		Types of externalities	
12		Pareto optimality	
13		Pareto optimality	
14		Market failure	
15		Pareto optimality and market failure	
16		Solution to market failure	
17		Pigouvian tax	
18		Property rights	
19		Coase theorem	

20		Coase theorem	

Sl. No. of Classes	Topic/Unit		Remarks
1	Unit 2	Economic instruments of environmental policies	
2		Economic instruments of environmental policies	
3		Pigouvian tax	
4		Pigouvian tax	
5		Effluent fees	
6		Tradable permits	
7		Implementation of environmental policies in India	
8		Implementation of environmental policies in India	
9		Joint forest management	
10		Joint forest management	
11		Watershed management	
12		Watershed management	
13		International experience and transboundary environmental problems	
14		International experience and transboundary	

		environmental problems	
15		Global warming	
16		Ozone depletion	
17		Global treaties	
18		Montreal Protocol	
19		Economies of climate change	
20		Economies of climate change	

Sl. No. of Classes	Topic/Unit		Remarks
1	Unit 4	Sustainable development background	
2		Concepts of sustainable development	
3		Importance of sustainable development	
4		Importance of sustainable development	
5		Problems of sustainable development	
6		Problems of sustainable development	
7		Sustainable development and India	
8		Sustainable development and India	
9		Notions of sustainability	
10		Notions of sustainability	
11		Strong sustainability	
12		Weak sustainability	
13		Keystone process	
14		Measurement of sustainability	

15		Indicators of sustainability	
16		Indicators of sustainability	
17		Indicators of sustainability	
18		Pearce Atkinson measure	
19		Pearce Atkinson measure	
20		Pearce Atkinson measure	

Name of the teacher: Subhashish Gogoi

Course: Honours/Generic: Honours

Class/Semester: V

Name of the Paper: Development Economics-I

Units Assigned: All

Marks Assigned: 80

Sl. No. of Classes	Topic/Unit	Remarks
1	Evolution of development economics	
2	Evolution of development economics	
3	Evolution of development economics	
4	Economic growth	
5	Economic growth	
6	Economic development	
7	Economic development	
8	Relationship and difference between economic growth and economic development	

9		Relationship and difference between economic growth and economic development	
10		Measures of development: GNP	
11		PQLI	
12		HDI	
13		HDI	
14		GDI	
15		GEM	

Sl. No. of Classes	Topic/Unit		Remarks
1	Unit 2	Strategies for development	
2		Strategies for development	
3		Rostow's stages of economic growth	
4		Rostow's stages of economic growth	
5		Low level equilibrium trap	
6		The critical minimum effort hypothesis	
7		The critical minimum effort hypothesis	
8		The critical minimum effort hypothesis	
9		Big push theory	
10		Big push theory	
11		Theory of balanced growth	
12		Theory of balanced growth	
13		Theory of unbalanced growth	
14		Theory of unbalanced growth	
15		Choice of technique	

Sl. No. of Classes	Topic/Unit		Remarks
1	Unit 3	Growth models	
2		Classical growth models	
3		Classical growth models	
4		Harrod-Domar growth model	
5		Harrod-Domar growth model	
6		Kaldor's Model	
7		Kaldor's Model	
8		Solow model	
9		Solow model and its variants	
10		Meade model	
11		Endogenous growth model	
12		Endogenous growth model	
13		Romer's Model	
14		Romer's Model	
15		Romer's Model	

Sl. No. of Classes	Topic/Unit		Remarks
1		Concept of poverty	
2		Measures of poverty	
3		Measures of poverty	

4	Unit 4	Head count ratio	
5		Sen's Index	
6		HPI	
7		MPI	
8		Inequality measures	
9		Gini Coefficient	
10		Gini Coefficient	
11		Lorenz Curve	
12		Connection between inequality and development	
13		Causes of poverty traps	
14		Causes of poverty traps	
15		Path dependence of growth process	

Sl. No. of Classes	Topic/Unit		Remarks
1	Unit 5	Political Institutions	
2		Functioning of the state	
3		Functioning of the state	
4		Alternative institutional trajectories	
5		Alternative institutional trajectories	
6		Relationship with economic performance	
7		Relationship with economic performance	
8		Relationship between democracy and economic development	
9		Relationship between democracy and economic development	
10		Functioning of state institutions	

11		Functioning of state institutions	
12		Within country differences	
13		State ownership and regulation	
14		State ownership and regulation	
15		Govt. failure and corruption	

Department of Education

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic : Honours

Class/Semester: I

Name of the Paper: Philosophical Foundations of Education

Units Assigned: I, III & V

Marks Assigned: 48

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit: I	Meaning of education	
2		Nature and Scope of education	
3		Types (Formal, Informal and Non-formal)	
4		Types (Formal, Informal and Non-formal)	
5		Aims of education	
6		Aims of education	
7		The functions of Education- Individual development (Development of skill)	
8		Basic knowledge, interest and appreciation	
9		Acquaintance with heritage, (preservation and transmission)	
10		Development of human values, (Social, moral and Aesthetic)	
11		Acquisition of skills leading to self-actualization and successful living	
12		Social cohesion and social progress	
13	Unit: III	Science of Education & Philosophy of Education	
14		Meaning, nature and scope of Philosophy of Education	
15		Meaning, nature and scope of Philosophy of Education	
16		Role of Philosophy in Education: Philosophy and aims of education	
17		Philosophy and curriculum	
18		Philosophy and methods of teaching	
19		Philosophy and role of teachers	
20		Philosophy and discipline	
21	Unit: V	Concept and nature of curriculum	
22		Curriculum and Syllabus	
23		Different kinds of curriculum based on various philosophies given in this course	
24		Concept of co-curricular activity	
25		Types of co-curricular activity	
26		Various philosophical thoughts given in the course on co-curricular activities	

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic: Honours

Class/Semester: I

Name of the Paper: **SOCIOLOGICAL FOUNDATIONS OF EDUCATION**

Units Assigned: I

Marks Assigned: 16

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit:I	Introduction to Educational Sociology-meaning, nature and scope	
2		Introduction to Educational Sociology-meaning, nature and scope	
3		Analogy between Education and Sociology(relationship)	
4		Need for sociological approaches in education (importance)	
5		Theories of Educational Sociology: Conflict Theory-concept	
6		Features, merits and demerits of Conflict Theory	
7		Consensus Theory- concept	
8		Features, merits and demerits of Consensus Theory	
9		Summary of the Unit and discussion	

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic : Honours

Class/Semester: II

Name of the Paper: **PSYCHOLOGICAL FOUNDATIONS OF EDUCATION**

Units Assigned: I & III

Marks Assigned: 16

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit:I	Meaning and nature of psychology	
2		Schools of Psychology: Behaviourism	
3		Structuralism	
4		Functionalism	
5		Gestalt Psychology	
6		Psycho-analysis	
7		Constructivism	
8		Meaning of Educational Psychology	
9		Nature Educational Psychology	
10		Scope of Educational Psychology	
11		Importance of Educational Psychology in classroom teaching	
13	Unit:III	Meaning and nature of intelligence	
14		Factors of Intelligence: Heredity and Environment	
15		Theories of intelligence: Monarchic theory	
16		Spearman's two factors theory	
17		Multifactor theory & Group factor theory	
18		Guilford's Structure of Intellect (SoI)	
19		Concept of Emotional Intelligence	
20		Creativity: Meaning and nature	
21		Process and Product of creativity	
22		Stages of Creativity: Preparation, Incubation, inspiration, revision and verification	
23		Nurturing Creativity in Classrooms	
24		Meaning and nature of gifted children, difference between creativity and giftedness	
25		Education of Exceptional children: Gifted learner	
26		Education of Exceptional children: Slow learner	
27		Education of Exceptional children: Educable, trainable, mentally challenged	

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic : Honours

Class/Semester: II

Name of the Paper: **EDUCATIONAL MANAGEMENT AND ADMINISTRATION**

Units Assigned: I & V

Marks Assigned: 32

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit: I	Meaning of Educational Management	
2		Nature & Scope of Educational Management	
3		Functions of Educational Management	
4		Types of Educational Management	
5		Types of Educational Management	
6		Difference between Management and Administration	
7		Management of Resources in Educational Institutions	
8		Management of Resources in Educational Institutions	
9		Management of Resources in Educational Institutions	
10		Management of Resources in Educational Institutions	
11		Management by Objectives	
12		Total Quality management	
13		SWOT analysis	
14	Unit: V	Meaning of educational finance	
15		Nature of educational finance	
16		Scope of educational finance	
17		Principles of managing educational finance	
18		Role of finance committee	
19		Maintenance of records in educational finance	
20		Use of computer in management of finance	
21		Budget	
22		Budget	
23		Sources of Educational Finance	
24		Public Private Partnership in financing Education	

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic : Honours

Class/Semester: III

Name of the Paper: **MEASUREMENT AND EVALUATION IN EDUCATION**

Units Assigned: III & V

Marks Assigned: 32

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit: III	Achievement Test: Construction and Standardization of Teacher-made test and Standardized test (Preparation of Design and Blue-print, Item writing, Item analysis, Estimating reliability, validity and norms)	
2		Do	
3		Do	
4		Do	
5		Intelligence Test: Binet-Simon Scale and its different revisions (1905, 1908, 1911, 1966, 1937)	
6		Do	
7		Do	
8		Do	
9		Do	
10		Aptitude Test: Differential Aptitude test, Specific Aptitude Tests (Artistic Aptitude Test and Professional Aptitude Test)	
11		Do	
12		Do	
13		Do	
14		Personality Assessment: Self report inventories	
15		Observational methods	
16		Projective Techniques	
17		Word Association test,	
18		Rorschach Inkblot test	
19		Thematic Apperception Test (TAT)	
20	Unit: V	Variable: Concept, Discrete and Continuous variables	
21		Discrete and Continuous variables	
22		Graphical representation of Data and its uses	
23		Pie-diagram	
24		Bar diagram	
25		Histogram & Frequency polygon	
26		Cumulative Frequency Curve and Ogive	
27		Normal Probability Curve: Properties and uses of Normal	

		Probability Curve	
28		Divergence from normality – Skewness	
29		Kurtosis	
30		Correlation: Positive and Negative Correlation	
31		Computation of Coefficients of Correlation by Rank Difference method	
32		Product Moment method (only for ungrouped data)	

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic: Honours

Class/Semester: III

Name of the Paper: **EXPERIMENTAL PSYCHOLOGY AND LABORATORY PRACTICAL**

Units Assigned: I, III, V & VI

Marks Assigned: 32

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit: I	Experimental psychology : Meaning, nature and scope of experimental psychology	
2		Origin of psychological experiment & Uses and Application of psychological experiments in the field of education	
3		Conducting and Reporting of psychological experiments	
4		Procedure of conducting and Reporting of Psychological Experiments	
5	Unit: V	Personality : Concept of personality, Historical background of personality assessment	
6		Different methods of assessment of personality (Subjective, Objective & Projective Method)	
7		Testing of personality: Rating scale	
8		Rorschach Ink-blot Test	
9		Thematic Apperception Test	
10		Free and Controlled Association	
11		Free Vs Controlled Association	
12	Unit: VI	Intelligence: Concept of Intelligence, Historical background of intelligence Testing.	
13		Koh's Block Design Test	

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic: Honours

Class/Semester: IV

Name of the Paper: **TECHNIQUES OF TEACHING**

Units Assigned: **II**

Marks Assigned: 16

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit: II	Planning Teaching: Lesson Plan- Meaning and importance	
2		Herbartian steps of planning a lesson	
3		Teaching Skills: Concept	
4		a) Introducing a lesson	
5		b) Blackboard writing	
6		c) Questioning (Fluency in questioning and Probing questioning)	
7		d) Stimulus variation	
8		e) Reinforcement	
9		f) Explaining	
10		g) Achieving closure	
11		Microteaching: Concept, importance and Microteaching cycle	
12		Objectives of teaching Language	
13		Objectives of teaching Social Science	
14		Objectives of teaching Science	
15		Objectives of Mathematics	

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic: Honours

Class/Semester: IV

Name of the Paper: **EDUCATION IN PRE-INDEPENDENT INDIA**

Units Assigned: **All**

Marks Assigned: 80

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit: I	Education in Ancient India	
2		Education in Vedic and Buddhist Period with special reference to its salient features	
3		Aims and Objectives System of Administration and Finance	
4		Method of Teaching Types of Organisation of Educational Institution	
5		Curriculum Teacher-Pupil Relationship	
6		Women's Education during Vedic and Buddhist Period	
7		Education in Medieval India (Islamic System of Education)	
8		Islamic System of Education with special reference to its Salient Features	
9		Islamic System of Education with special reference to its Aims and Objectives	
10		Islamic System of Education with special reference to its System of Administration and Finance	
11		Islamic System of Education with special reference to its Types of Organisation of Educational Institution	
12		Islamic System of Education with special reference to its Curriculum	
13		Islamic System of Education with special reference to its Women Education during Islamic Period	
14		Comparison among the Vedic, Buddhist and Islamic education system.	
15	Unit: II	Education during British Period & Indigenous System of Education during British rule	
16		Meaning of indigenous education Types of indigenous educational institution Causes of downfall of Indigenous education	
17		Educational activities of Missionaries in India - The Portuguese	
18		Educational activities of Missionaries in India - The Danish	
19		Educational activities of Missionaries in India - The Dutch	
20		Educational activities of Missionaries in India - The French - The British	
21		Centres of Missionary Education in India	
22		Educational activities of Missionaries in Assam	
23		Educational activities of East India Company - Charter Act, 1813	
24		Orientalist and Anglicist Controversy	
25		Macaulay's Minute, 1835	

26		Bentinck's declaration of educational policy	
27	Unit: III	Wood's Despatch 1854	
28		Wood's Despatch 1854	
29		Hunter's Commission, 1882	
30		Hunter's Commission, 1882	
31		Lord Curzon's Educational Policy	
32		Do	
33		Do	
34		The Indian University Commission, 1902	
35		University Act, 1904	
36		National Movement / Rise of Nationalism	
37		Gokhale's Bill on Primary Education (1910-12)	
38		Government resolution on Educational policy, 1913	
39		Calcutta University Commission, 1917	
40	Unit: IV	Education under Dyarchy - Primary Education	
41		Education under Dyarchy - Secondary Education	
42		Education under Dyarchy -Expansion of education	
43		Simon Commission	
44		Government of India Act of 1921	
45		Hartog Committee Report 1929	
46		Do	
47		Wardha Scheme of Basic Education, 1937 - Wardha Education Conference 1937	
48		Salient features of Basic Education	
49		Causes of failure of this education in India	
50		Wood Abbot Report 1937	
51		Sargent Committee Report, 1944	
52		Do	

COURSE PLAN

Name of the Teacher: **POBAN GOGOI**

Course - Honours/Generic: Honours

Class/Semester: V

Name of the Paper: **EDUCATION IN POST-INDEPENDENT INDIA**

Units Assigned: **All**

Marks Assigned: 80

Sl. No. of classes	Topic/ Unit		Remarks
1	Unit: I	A brief account of educational scenario at the time of Independence	
2		University Education Commission, 1948-49 - Aims of University Education	
3		University Education Commission, 1948-49 - Reforms of curriculum	
4		University Education Commission, 1948-49 - Administration and Funding	
5		University Education Commission, 1948-49 - Teaching and Research	
6		University Education Commission, 1948-49 - Vocational Education	
7		University Education Commission, 1948-49 - Women's Education	
8		University Education Commission, 1948-49 - Examination reform	
9		University Education Commission, 1948-49 - Students Welfare	
10		University Education Commission, 1948-49 - Implications of University Education Commission's recommendations in present Education system	
11		Education in the Indian Constitution	
12		Preamble of the Constitution	
13		Constitutional Provisions on: - Free and Compulsory Education - Early Childhood Care and Education - Secularism in Education - Study of Hindi and Official language - Education for Women - Education for Minorities - Education for ST and SC	
14		- Reasons for inclusion of Education in Concurrent List. - Challenges towards Implementation of the Constitutional provisions.	
15	Unit: II	Secondary Education Commission, 1952-53 - Defects of Secondary Education	
16		Secondary Education Commission, 1952-53 - Aims of Secondary Education	
17		Secondary Education Commission, 1952-53 - Organisational pattern of Secondary Education	
18		Recommendations of Secondary Education Commission	
19		Do	
20		Do	
21		Do	

22		Education Commission, 1964-66	
23		Education Commission, 1964-66 & its recommendations	
24		Do	
25		Do	
26		Implications of the Education Commission's recommendations in present Education system	
27	Unit: III	National Policy of Education 1968	
28		Iswarbai Patel Review Committee, 1977	
29		Adiseshiah Committee Report, 1978	
30		National Policy of Education, 1986	
31		Do	
32		Ramamurthy Review Committee, 1990 on NPE	
33		Janardan Reddy Committee Report, 1991	
34		Revised National Policy of Education, 1992	
35		Do	
40	Unit: IV	Sarva Siksha Abhiyan (SSA): Its Objectives, Organization, Functions, Achievement	
41		Do	
42		Rashtriya Madhyamik Shiksha Abhiyan (RMSA): Its Objectives, Organization and Functions	
43		Do	
44		Right to Education (RTE), 2009: Provisions and role of respective authorities (Government, Head of the school, Teachers)	
45		Do	
46		Do	
47		Rashtriya Uchchatar Shiksha Abhiyan (RUSA): Its Objectives, organization and functions	
48		Do	
49		National Knowledge Commission (NKC): Its recommendations for School and Higher Education	
50		Do	
51		National Curriculum Framework (NCF), 2005: Aims of Education, Curriculum, Evaluation system	
52		Do	
53		Role of NCTE in development of Indian Education	
54		UGC	
55		NAAC	
56		AICTE	
57		BCI	
58		MCI	
59		NCERT	
60		NUEPA	
61		NIOS	

Course plan

Name of the Teacher-PRADIP DUTTA (Assistant professor, Education Department)

Course –Honors’ / Generic

Class/Semester-I

Name of the paper-philosophical foundation of Education

Units Assigned-II Indian schools of philosophy and their influence in education

III-western schools of philosophy and their influence in Education

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit	Remarks
1	1.basic feature and classification of Indian philosophy	
2	2.yoga philosophy	
3	Hatha, Raj,astangika	
4	Influence of yoga in Education	
5	Influence of yoga in Education	
6	Vedanta philosophy concept and basic features	
7	Advaita Vedanta,	
8	Influence in Education	
9	Buddhism, four noble truth	
10	Buddhism, four noble truth	
11	Influence in Education	
12	Middle path	
13	Middle path	
14	impact of Indian schools of philosophy in present system of education.	
15	,Astangika yoga	
16	discussion	
Unit III	western schools of philosophy and their influence in Education	
Serial number of classes	Topic/ Unit	Remarks
1	Basic features of western philosophy	
2	Idealism –concept of idealism philosophy	

3	Basic tenents	
4	Determining aim of education	
5	curriculum	
6	Method of teaching	
7	Role of teacher	
8	Discipline in education	
9	Naturalism - concept of naturalism philosophy	
10	Basic tenents	
11	Determining aim of education	
12	curriculum	
13	Method of teaching	
14	Role of teacher	
15	Discipline in education	
16	Pragmatism - concept of pragmatism philosophy	
17	Basic tenents	
18	Determining aim of education	
19	curriculum	
20	Method of teaching	
21	Role of teacher	
22	Discipline in education	
23	Impact of western philosophy in present system of Indian education	

Course –**Honors'** / Generic –

Class/Semester-I

Name of the paper-sociological foundation of Education

Units Assigned-V –education and political ideologies

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Democracy- concept and basic features	
2	Nature of education in democracy	
3	Totalitarianism – concept & basic feature	
5	Nature of education in totalitarianism	
6	communism- concept and basic features	
7	Nature of education in totalitarianism	
8	Secularism-concept and basic feature	
9	Discussion	

Course –Honors'

Class/Semester-II

Name of the paper-psychological foundation of education

Units Assigned-II **Learning and Motivation**

III-western schools of philosophy and their influence in Education

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit	Remarks
1	1.Meaning and nature of Learning	
2	Factors of learning-Home and school	
3	Mass-media , Intelligence	
4	Variables of Learning-personal	
5	Subject matter and Method	
6	Types of Learning –cognitive, affective , psychomotor	
7	Theories of learning, thordike s theory of learning , classical conditioning	
8	Operant conditioning	
9	Gestalt theory	
10	Thorndike’s laws of learning	
11	Maturation -Meaning and role in learning	
12	Motivation -Meaning and role in learning	
13	Transfer of Learning –intra- inter , positive , negative	
14	Zero, Horizontal, Bilateral, Vertical	
15	Attention and interest -Meaning and role in learning	
16	Memory and learning	

Course –Honors’

Class/Semester-II

Name of the paper-Educational Management and Administration

Unit’s Assigned-II –Leadership

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Meaning And Definition Of Educational Leadership	
2	Nature of Educational Leadership	
3	Functions of Educational Leadership	

5	principles of Educational Leadership	
6	Style of Educational Leadership –Autocratic,	
7	Democratic and laissezfaire	
8	Factors influence educational leadership style	
9	Factors influence educational leadership style	
10	Essential qualities of an educational leader	
11	Essential qualities of an educational leader	
12	Leadership development programmes	
13	Role of educational leader in ensuring quality of educational	
14	Discussion	

Course –Honors’

Class/Semester-III

Name of the paper-Measurement and evaluation in education

Units Assigned–**Concept of Measurement And Evaluation In Education**

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature of measurement and evaluation in education.	
2	Relationship between measurement and evaluation in education	
3	Psychological measurement	
5	Physical measurement	
6	Difference between Psychological and Physical measurement	
7	Principle of evaluation	
8	Continuous and comprehensive evaluation	
9	Difference between Continuous and comprehensive	
10	Formative and summative evaluation	
11	Formative and summative evaluation	
12	Diagnostic and prognostic evaluation	
13	Diagnostic and prognostic evaluation	
14	Discussion	
Unit IV-STATISTICS IN EDUCATION		
1	Meaning nature and scope of educational statistics	
2	Types of data –Enumeration and Measurement Data	
3	Grouped and ungrouped data	
4	Measurement Of Central Tendency -Concept Of Mean Median and Mode	
5	Merits and demerits of Mean Median and Mode	

6	Computation and application in education Computation and application in education	
7	Computation and application in education	
8	Measurement of variability –concept of range ,quartile deviation, mean deviation ,standard deviation	
9	Computation of application of range ,quartile deviation	
10	Computation of application of standard deviation	
11	Computation of application of standard deviation	
12	Practice of computation	
13	Practice	
14	Tutorial	
15	Tutorial	

Course –Honors’

Class/Semester-III

Name of the paper-Experimental psychology and laboratory practical

Units Assigned- –**II Memory**

Marks Assigned- 12

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature of Memory	
2	Types of Memory (long term and short term)	
3	Factors affecting memory	
5	Memory span	
6	Historical background of testing memory	
7	Testing of memory	
8	Memory span for digit	
9	Memory span for letters	
10	Memory span for words	
11	Memory span for Non-sense syllables	
12	Recall and recognition	
13	practice	
14	Practice	

Class/Semester-III

Name of the paper – **Great educators and educational thoughts**

Units Assigned- **I Ancient Indian Educators & educational thoughts**

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Sankaracharyas -basic tenents and advaita Vedanta	
2	Aims of education and curriculum	
3	Method of Teaching , Place of teacher	
5	Place of child and discipline	
6	Yagyavalkos –concept of soul and absolute soul	
7	Aims of education and curriculum	
8	Method of Teaching , Place of teacher	
9	Place of child and discipline	
10	sankardevs –philosophy of life	
11	Aims of education and curriculum	
12	Method of Teaching , Place of teacher	
13	Place of child and discipline	
14	Discussion	
Unit iv – western Educators & educational thoughts		
	John Dewey - philosophy of life	
1	Deweys experimental school	
2	Concept of education according to Dewey	
3	Aims of education and curriculum	
4	Method of Teaching , Place of teacher	
5	Place of child and discipline	
6	Deweys pragmatism	
7	Relevance of deweys pragmatism	
8	Jacques Darrida , philosophy of life	
9	Concept of deconstruction	
10	Darridas basic ideas on education	
11	Darridas reaction to Reaussus naturalism	
12	Darridas reaction to idealism	
13	Jean Paul Satre -philosophy of life	
14	Satres idea of freedom and individualism	
15	Educational implications of these two ideas	
16	Discussion	

Class/Semester-Iv

Name of the paper –**Educational Technology**

Units Assigned- –**All**

Marks Assigned-80

Serial number of classes	Topic/ Unit	Remarks
1	Educational technology Concept of educational technology	
2	nature of educational technology	
3	development of educational technology ,	
4	development of educational technology in India	
5	components of educational	
6	Source and channel	
7	Message & receiver	
8	Feedback and setting	
9	technology :hardware	
10	soft and	
11	systems approach	
12	instructional technology	
13	Difference between educational technology and instructional technology	
14	Difference between educational technology and instructional technology	
15	discussion	
16	discussion	
	ICT IN EDUCATION	
1	Concept of ICT	
2	Development of information and communication technology	
3	Development of ICT	
4	computer and its role in education	
5	computer and its role in education	
6	Application of ICT-smart learning	
7	Smart classes	
8	, virtual classes	
9	ICT in Evaluation	
10	. E- Learning	
11	Internet and its application	
Unit II	Communication and teaching	
1	concept of communication	

2	nature of communication	
3	components of	
4	Communication-source	
5	channel	
6	message	
7	receiver	
8	Feedback and setting	
9	classroom communication	
10	significance of communication in learning	
11	significance of communication in learning	
12	barriers of effective classroom communication	
13	steps for making communication effective	
14	qualities of a good classroom communication	
Unit-III	Instructional techniques	
1	models of teaching (concept	
2	characteristics	
3	inquiry training model	
4	classroom meeting model	
5	personalized system of instruction	
6	computer assisted instruction meaning	
7	Nature of computer assisted instruction	
8	forms of computer assisted instruction	
9	merits and demerits computer assisted instruction	
10	programmed learning (meaning	
11	characteristics	
12	Types of programmed learning	
13	Liner programmed learning	
14	Branching programmed learning	
15	open and distance education : concept	
16	Usefulness of open and distance learning	
17	application of technology in open and distance learning	
18	team teaching	
19	Group discussion	
20	Seminar and symposium	
	Discussion	

Class/Semester-IV

Name of the paper-**Teaching Practice**

Units Assigned- **–II preparing lesson plan and practice teaching**

Marks Assigned- 28

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature of lesson plan	
2	Types of lesson	
3	Knowledge lesson plan	
5	Appreciation lesson plan	
6	Skill lesson plan	
7	Demonstration of lesson plan	
8	Demonstration of lesson plan	
9	Practice teaching on Knowledge lesson in classroom	
10	Practice teaching on Knowledge lesson in classroom	
11	Practice teaching on appreciation lesson in classroom	
12	Practice teaching on appreciation lesson in classroom	
13	Practice teaching on skill lesson in classroom	
14	Practice teaching on skill lesson in classroom	

Class/Semester-V-502

Name of the paper –**Education in world perspective**

Units Assigned- **–All**

Marks Assigned-80

Serial number of classes	Topic/ Unit	Remarks
1	Importance of studying national system of education	
2	Nature and scope of national system of education	
3	development of national system of education	

4	Factors influencing national system of education	
5	Geographical	
6	historical	
7	political	
8	Economical	
9	social	
10	philosophical	
11	Linguistic and racial	
12	Secular and religious	
Unit II	Aims and objectives of national system of education	
1	U.S.A	
2	U.K	
3	JAPAN	
4	INDIA	
5	Discussion	
Unit III	Historical perspective of the development of study	
1	Travelers tale	
2	Educational problems	
3	Interectionof society and education	
4	Quantitative approach	
5	Scientific approach	
	Methods of studyng national system of education	
1	descriptive	
2	statistical	
3	Historical	
4	psychological	
5	scientific	
6	sociological	
Unit Iv	development of education with respect to salient features organization ,administration and curriculam of primarysecondary and higher education of JAPAN, USA, UK, and INDIA	
1	Salient features of primary education in JAPAN, USA, UK, and INDIA	
2	Organization of primary education in JAPAN, USA, UK, and INDIA	
3	Administration of primary education in JAPAN, USA, UK, and INDIA	
4	Curriculum of primary education in JAPAN, USA, UK, and INDIA	
5	Salient features of secondary education in JAPAN, USA, UK, and INDIA	
6	Organization ofsecondary education in JAPAN, USA, UK, and INDIA	
7	Administration of secondary education in JAPAN, USA, UK, and INDIA	

8	Curriculum of secondary education in JAPAN, USA, UK, and INDIA	
10	Salient features of higher education in JAPAN, USA, UK, and INDIA	
9	Organization of higher education in JAPAN, USA, UK, and INDIA	
12	Administration of higher education in JAPAN, USA, UK, and INDIA	
10	Curriculum of higher education in JAPAN, USA, UK, and INDIA	
Unit V	Development of education with respect to organization curriculum and evaluation in context of Technical and Vocational , Distance and open learning, and women education of JAPAN, USA, UK, and INDIA	
1	Organization of technical and vocational education of USA ,UK,JAPAN and INDIA	
2	Curriculum of technical and vocational education of USA ,UK,JAPAN and INDIA	
3	Evaluation of technical and vocational education of USA ,UK,JAPAN and INDIA	
5	Organization of TEACHER education of USA ,UK,JAPAN and INDIA	
6	Curriculum of Teacher education of USA ,UK,JAPAN and INDIA	
7	Evaluation of Teacher education of USA ,UK,JAPAN and INDIA	
8	Organization of Open and Distance education of USA ,UK,JAPAN and INDIA	
10	Curriculum of Open and Distance education of USA ,UK,JAPAN and INDIA	
11	Evaluation of Open and Distance education of USA ,UK,JAPAN and INDIA	
12	Organization Women Education in USA ,UK JAPAN INDIA	
13	Status Women Education in USA ,UK JAPAN INDIA	
14	Problems Women Education in JAPAN in USA ,UK JAPAN INDIA	
15	Development Women Education in USA ,UK JAPAN INDIA	

Class/Semester-v (General) Non -CBCS**Name of the paper –Developmental History of Indian education****Units Assigned-I- Education in ancient India**

Serial number of classes	Topic/ Unit	Remarks
1	Ideal of Vedic education	
2	Aims of education	
3	Characteristics of Vedic education	
3	Organization finance,curriculum	
4	Women education	
5	Ideal of Budhist education	
6	Aims of education	
7	Characteristics of Budhist education	
8	Organization,finance	
9	curriculum	
10	Women Education	
11	Ideal of Islamic education	
12	Aims of education	
13	Organization ,finance	
14	Curriculum , womwn education	
15		
Unit III	Educational development of twentieth century	
	Lord curzons policy 1904	
	Lord curzons policy 1904	
	Gokhles Bill (1910-12)	
	Gokhles Bill (1910-12)	
	Calcatta University commission 1917	
	Basic education 1937	
	Basic education 1937	
	Surgrnt committee report 1944	
	Surgrnt committee report 1944	

Class/Semester-V-DSEED-503**Name of the paper –Inclusive education****Units Assigned-V- current trends and future perspective**

Marks Assigned-80

Serial number of classes	Topic/ Unit	Remarks
1	concept of curriculum adoptions for children with divers needs	
2	Needs of curriculum adoptions for children with divers needs	
3	Curricular and co-curricular activities for meeting divers needs of children	
	Curricular and co-curricular activities for meeting divers needs of children	
4	Role of the agencies	
5	Facilely	
6	Community	
7	NGO,s	
8	Problems /constraints in education of socially disadvantaged chidren	
9	Problems /constraints in education of socially disadvantaged chidren-SC/ST	
10	Problems /constraints in education of socially disadvantaged chidren-OBC	
11	Problems /constraints in education of socially disadvantaged chidren-Rural	
12	Addressing social group inequality	
13	Multicultural education	
	Multicultural education	
14	Teaching learning process and support material	
15	Schemes and programmes for education of socially disadvantaged section	
16	Schemes and programmes for education of socially disadvantaged section	
17	Schemes and programmes for education of socially disadvantaged section	
18	Discussion	

Class/Semester-V (Non- CBCS)

Name of the paper-**TELG 501** Basics of Teaching in Elementary Level

Units Assigned- –**II Human growth and developmental stage**

Marks Assigned- 28

Serial number of classes	Topic/ Unit	Remarks
1	Concept of human growth and development	
2	Concept of human growth and development	
3	Characteristics of childhood	
5	Behavioural Taxonomy	
6	Cognitive	
7	affective	
8	psychomotor	
9	Discussion	

Class/Semester-V(Non-CBCS)

Name of the paper-502: Aspects of Teaching Learning Process

Units Assigned- –**I-The Teaching Learning Process**

Unit-II-Macro and Micro teaching

Marks Assigned- 25

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature Teaching and Learning	
2	Principles of teaching	
3	Principles of Learning	
5	General Maxims of Teaching	
6	General Maxims of Teaching	
7	Classroom Problems of Beginners	
8	Discussion	
Unit II-		
1	Concept of Macro and Micro Teaching	
2	Meaning and importance of lesson plan	
3	Herbertian steps of lesson plan	
4	Micro teaching skills	
5	Introducing a lesson	
6	Teaching of social studies	
7	Teaching of science	
8	Teaching of language	

Class/Semester-V (Non-CBCS)

Name of the paper-(601) Method and techniques of teaching

II preparing lesson plan and practice teaching

Marks Assigned- 30

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature Teaching and Learning	
2	Principles of teaching	
3	Principles of Learning	
5	General Maxims of Teaching	
6	General Maxims of Teaching	
7	Classroom Problems of Beginners	
8	Discussion	
Unit II-		
1	Concept of Macro and Micro Teaching	
2	Meaning and importance of lesson plan	
3	Herbertian steps of lesson plan	
4	Micro teaching skills	
5	Introducing a lesson	
6	Teaching of social studies	
7	Teaching of science	
8	Teaching of language	

Class/Semester-VI-603 (Non –CBCS)

Name of the paper –**Education in world perspective**

Units Assigned- **All**

Marks Assigned-80

Serial number of classes	Topic/ Unit	Remarks
1	Meaning of comparative education	
2	Nature and scope of national system of education/comparative education	
3	Historical background of comparative education	
4	Factors influencing national system of education	
5	Geographical	
6	historical	

7	political	
8	Economical	
9	social	
10	philosophical	
11	Linguistic and racial	
12	Secular and religious	
Unit II	Aims and objectives of national system of education	
1	U.S.A	
2	U.K	
3	JAPAN	
4	INDIA	
5	Discussion	
Unit III		
1	Methods of studying national system of education	
2	descriptive	
3	statistical	
4	Historical	
5	psychological	
6	scientific	
7	sociological	
Unit IV	development of education with respect to salient features organization ,administration and curriculam of primarysecondary and higher education of JAPAN, USA, UK, and INDIA	
1	Salient features of primary education in JAPAN, USA, UK, and INDIA	
2	Organization of primary education in JAPAN, USA, UK, and INDIA	
3	Administration of primary education in JAPAN, USA, UK, and INDIA	
4	Curriculum of primary education in JAPAN, USA, UK, and INDIA	
5	Salient features of secondary education in JAPAN, USA, UK, and INDIA	
6	Organization ofsecondary education in JAPAN, USA, UK, and INDIA	
7	Administration of secondary education in JAPAN, USA, UK, and INDIA	
8	Curriculum of secondary education in JAPAN, USA, UK, and INDIA	
10	Salient features of higher education in JAPAN, USA, UK, and INDIA	
9	Organization of higher education in JAPAN,	

	USA, UK, and INDIA	
12	Administration of higher education in JAPAN, USA, UK, and INDIA	
10	Curriculum of higher education in JAPAN, USA, UK, and INDIA	
Unit V	Development of education with respect to organization curriculum and evaluation in context of Technical and Vocational , Distance and open learning, and women education of JAPAN, USA, UK, and INDIA	
1	Organization of technical and vocational education of USA ,UK,JAPAN and INDIA	
2	Curriculum of technical and vocational education of USA ,UK,JAPAN and INDIA	
3	Evaluation of technical and vocational education of USA ,UK,JAPAN and INDIA	
5	Organization of TEACHER education of USA ,UK,JAPAN and INDIA	
6	Curriculum of Teacher education of USA ,UK,JAPAN and INDIA	
7	Evaluation of Teacher education of USA ,UK,JAPAN and INDIA	

Course plan

Name of the Teacher-PRADIP DUTTA (Assistant professor, Education Department)

Course –Honors’ / Generic

Class/Semester-I

Name of the paper-philosophical foundation of Education

Units Assigned-II Indian schools of philosophy and their influence in education

III-western schools of philosophy and their influence in Education

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit	Remarks
1	1.basic feature and classification of Indian philosophy	
2	2.yoga philosophy	
3	Hatha, Raj,astangika	
4	Influence of yoga in Education	
5	Influence of yoga in Education	
6	Vedanta philosophy concept and basic features	

7	Advaita Vedanta,	
8	Influence in Education	
9	Buddhism, four noble truth	
10	Buddhism, four noble truth	
11	Influence in Education	
12	Middle path	
13	Middle path	
14	impact of Indian schools of philosophy in present system of education.	
15	,Astangika yoga	
16	discussion	
Unit III	western schools of philosophy and their influence in Education	
Serial number of classes	Topic/ Unit	Remarks
1	Basic features of western philosophy	
2	Idealism – concept of idealism philosophy	
3	Basic tenets	
4	Determining aim of education	
5	curriculum	
6	Method of teaching	
7	Role of teacher	
8	Discipline in education	
9	Naturalism - concept of naturalism philosophy	
10	Basic tenets	
11	Determining aim of education	
12	curriculum	
13	Method of teaching	
14	Role of teacher	
15	Discipline in education	
16	Pragmatism - concept of pragmatism philosophy	
17	Basic tenets	
18	Determining aim of education	
19	curriculum	
20	Method of teaching	
21	Role of teacher	
22	Discipline in education	
23	Impact of western philosophy in present system of Indian education	

Course –**Honors'** / Generic –

Class/Semester-I

Name of the paper-sociological foundation of Education

Units Assigned-V –education and political ideologies

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Democracy- concept and basic features	
2	Nature of education in democracy	
3	Totalitarianism – concept & basic feature	
5	Nature of education in totalitarianism	
6	communism- concept and basic features	
7	Nature of education in totalitarianism	
8	Secularism-concept and basic feature	
9	Discussion	

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Course –Honors'

Class/Semester-II

Name of the paper-psychological foundation of education

Units Assigned-II **Learning and Motivation**

III-western schools of philosophy and their influence in Education

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit	Remarks
1	1.Meaning and nature of Learning	
2	Factors of learning-Home and school	
3	Mass-media , Intelligence	
4	Variables of Learning-personal	
5	Subject matter and Method	
6	Types of Learning –cognitive, affective , psychomotor	

7	Theories of learning, thorndike s theory of learning , classical conditioning	
8	Operant conditioning	
9	Gestalt theory	
10	Thorndike's laws of learning	
11	Maturation -Meaning and role in learning	
12	Motivation -Meaning and role in learning	
13	Transfer of Learning –intra- inter , positive , negative	
14	Zero, Horizontal, Bilateral, Vertical	
15	Attention and interest -Meaning and role in learning	
16	Memory and learning	

Course –Honors'

Class/Semester-II

Name of the paper-Educational Management and Administration

Unit's Assigned-II –Leadership

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Meaning And Definition Of Educational Leadership	
2	Nature of Educational Leadership	
3	Functions of Educational Leadership	
5	principles of Educational Leadership	
6	Style of Educational Leadership –Autocratic,	
7	Democratic and laissezfaire	
8	Factors influence educational leadership style	
9	Factors influence educational leadership style	
10	Essential qualities of an educational leader	
11	Essential qualities of an educational leader	
12	Leadership development programmes	
13	Role of educational leader in ensuring quality of educational	
14	Discussion	

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Course –Honors’

Class/Semester-III

Name of the paper-Measurement and evaluation in education

Units Assigned–**Concept of Measurement And Evaluation In Education**

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature of measurement and evaluation in education.	
2	Relationship between measurement and evaluation in education	
3	Psychological measurement	
5	Physical measurement	
6	Difference between Psychological and Physical measurement	
7	Principle of evaluation	
8	Continuous and comprehensive evaluation	
9	Difference between Continuous and comprehensive	
10	Formative and summative evaluation	
11	Formative and summative evaluation	
12	Diagnostic and prognostic evaluation	
13	Diagnostic and prognostic evaluation	
14	Discussion	
Unit IV-STATISTICS IN EDUCATION		
1	Meaning nature and scope of educational statistics	
2	Types of data –Enumeration and Measurement Data	
3	Grouped and ungrouped data	
4	Measurement Of Central Tendency -Concept Of Mean Median and Mode	
5	Merits and demerits of Mean Median and Mode	
6	Computation and application in education	
7	Computation and application in education	
8	Measurement of variability –concept of range ,quartile deviation, mean deviation ,standard deviation	
9	Computation of application of range ,quartile deviation	
10	Computation of application of standard deviation	
11	Computation of application of standard deviation	

12	Practice of computation	
13	Practice	
14	Tutorial	
15	Tutorial	

Course –Honors’

Class/Semester-III

Name of the paper-Experimental psychology and laboratory practical

Units Assigned- **–II Memory**

Marks Assigned- 12

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature of Memory	
2	Types of Memory (long term and short term)	
3	Factors affecting memory	
5	Memory span	
6	Historical background of testing memory	
7	Testing of memory	
8	Memory span for digit	
9	Memory span for letters	
10	Memory span for words	
11	Memory span for Non-sense syllables	
12	Recall and recognition	
13	practice	
14	Practice	

Class/Semester-III

Name of the paper –**Great educators and educational thoughts**

Units Assigned- **–I Ancient Indian Educators & educational thoughts**

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Sankaracharyas -basic tenents and advaita	

	Vedanta	
2	Aims of education and curriculam	
3	Method of Teaching , Place of teacher	
5	Place of child and discipline	
6	Yagyavolkos –concept of soul and absolute soul	
7	Aims of education and curriculam	
8	Method of Teaching , Place of teacher	
9	Place of child and discipline	
10	sankardevs –philosophy of life	
11	Aims of education and curriculam	
12	Method of Teaching , Place of teacher	
13	Place of child and discipline	
14	Discussion	
Unit iv – western Educators & educational thoughts		
	John Dewey - philosophy of life	
1	Deweys experimental school	
2	Concept of education according to Dewey	
3	Aims of education and curriculam	
4	Method of Teaching , Place of teacher	
5	Place of child and discipline	
6	Deweys pragmatism	
7	Relevance of deweys pragmatism	
8	Jacques Darrida , philosophy of life	
9	Concept of deconstruction	
10	Darridas basic ideas on education	
11	Darridas reaction to Reaussus naturalism	
12	Darridas reaction to idealism	
13	Jean Paul Satre -philosophy of life	
14	Satres idea of freedom and individualism	
15	Educational implications of these two ideas	
16	Discussion	

Class/Semester-Iv

Name of the paper –**Educational Technology**

Units Assigned- –**All**

Marks Assigned-80

Serial number of classes	Topic/ Unit	Remarks
1	Educational technology Concept of educational technology	
2	nature of educational technology	
3	development of educational technology ,	
4	development of educational technology in India	

5	components of educational	
6	Source and channel	
7	Message & receiver	
8	Feedback and setting	
9	technology :hardware	
10	soft and	
11	systems approach	
12	instructional technology	
13	Difference between educational technology and instructional technology	
14	Difference between educational technology and instructional technology	
15	discussion	
16	discussion	
	ICT IN EDUCATION	
1	Concept of ICT	
2	Development of information and communication technology	
3	Development of ICT	
4	computer and its role in education	
5	computer and its role in education	
6	Application of ICT-smart learning	
7	Smart classes	
8	, virtual classes	
9	ICT in Evaluation	
10	. E- Learning	
11	Internet and its application	
Unit II	Communication and teaching	
1	concept of communication	
2	nature of communication	
3	components of	
4	Communication-source	
5	channel	
6	message	
7	receiver	
8	Feedback and setting	
9	classroom communication	
10	significance of communication in learning	
11	significance of communication in learning	
12	barriers of effective classroom communication	
13	steps for making communication effective	
14	qualities of a good classroom communication	
Unit-III	Instructional techniques	
1	models of teaching (concept	

2	characteristics	
3	inquiry training model	
4	classroom meeting model	
5	personalized system of instruction	
6	computer assisted instruction meaning	
7	Nature of computer assisted instruction	
8	forms of computer assisted instruction	
9	merits and demerits computer assisted instruction	
10	programmed learning (meaning	
11	characteristics	
12	Types of programmed learning	
13	Liner programmed learning	
14	Branching programmed learning	
15	open and distance education : concept	
16	Usefulness of open and distance learning	
17	application of technology in open and distance learning	
18	team teaching	
19	Group discussion	
20	Seminar and symposium	
	Discussion	

Class/Semester-IV

Name of the paper-**Teaching Practice**

Units Assigned- **–II preparing lesson plan and practice teaching**

Marks Assigned- 28

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature of lesson plan	
2	Types of lesson	
3	Knowledge lesson plan	
5	Appreciation lesson plan	
6	Skill lesson plan	
7	Demonstration of lesson plan	
8	Demonstration of lesson plan	
9	Practice teaching on Knowledge lesson in classroom	
10	Practice teaching on Knowledge lesson in classroom	

11	Practice teaching on appreciation lesson in classroom	
12	Practice teaching on appreciation lesson in classroom	
13	Practice teaching on skill lesson in classroom	
14	Practice teaching on skill lesson in classroom	

Class/Semester-V-502

Name of the paper –**Education in world perspective**

Units Assigned- –**All**

Marks Assigned-80

Serial number of classes	Topic/ Unit	Remarks
1	Importance of studying national system of education	
2	Nature and scope of national system of education	
3	development of national system of education	
4	Factors influencing national system of education	
5	Geographical	
6	historical	
7	political	
8	Economical	
9	social	
10	philosophical	
11	Linguistic and racial	
12	Secular and religious	
Unit II	Aims and objectives of national system of education	
1	U.S.A	
2	U.K	
3	JAPAN	
4	INDIA	
5	Discussion	
Unit III	Historical perspective of the development of study	
1	Travelers tale	
2	Educational problems	
3	Interectionof society and education	
4	Quantitative approach	
5	Scientific approach	
	Methods of studyng national system of	

	education	
1	descriptive	
2	statistical	
3	Historical	
4	psychological	
5	scientific	
6	sociological	
Unit Iv	development of education with respect to salient features organization ,administration and curriculam of primarysecondary and higher education of JAPAN, USA, UK, and INDIA	
1	Salient features of primary education in JAPAN, USA, UK, and INDIA	
2	Organization of primary education in JAPAN, USA, UK, and INDIA	
3	Administration of primary education in JAPAN, USA, UK, and INDIA	
4	Curriculum of primary education in JAPAN, USA, UK, and INDIA	
5	Salient features of secondary education in JAPAN, USA, UK, and INDIA	
6	Organization ofsecondary education in JAPAN, USA, UK, and INDIA	
7	Administration of secondary education in JAPAN, USA, UK, and INDIA	
8	Curriculum of secondary education in JAPAN, USA, UK, and INDIA	
10	Salient features of higher education in JAPAN, USA, UK, and INDIA	
9	Organization of higher education in JAPAN, USA, UK, and INDIA	
12	Administration of higher education in JAPAN, USA, UK, and INDIA	
10	Curriculum of higher education in JAPAN, USA, UK, and INDIA	
Unit V	Development of education with respect to organization curriculum and evaluation in context of Technical and Vocational , Distance and open learning, and women education of JAPAN, USA, UK, and INDIA	
1	Organization of technical and vocational education of USA ,UK,JAPAN and INDIA	
2	Curriculum of technical and vocational education of USA ,UK,JAPAN and INDIA	
3	Evaluation of technical and vocational education of USA ,UK,JAPAN and INDIA	
5	Organization of TEACHER education of USA ,UK,JAPAN and INDIA	
6	Curriculum of Teacher education of USA ,UK,JAPAN and INDIA	

7	Evaluation of Teacher education of USA ,UK,JAPAN and INDIA	
8	Organization of Open and Distance education of USA ,UK,JAPAN and INDIA	
10	Curriculum of Open and Distance education of USA ,UK,JAPAN and INDIA	
11	Evaluation of Open and Distance education of USA ,UK,JAPAN and INDIA	
12	Organization Women Education in USA ,UK JAPAN INDIA	
13	Status Women Education in USA ,UK JAPAN INDIA	
14	Problems Women Education in JAPAN in USA ,UK JAPAN INDIA	
15	Development Women Education in USA ,UK JAPAN INDIA	

Class/Semester-v (General) Non -CBCS

Name of the paper –Developmental History of Indian education

Units Assigned-I- Education in ancient India

Serial number of classes	Topic/ Unit	Remarks
1	Ideal of Vedic education	
2	Aims of education	
3	Characteristics of Vedic education	
3	Organization finance,curriculum	
4	Women education	
5	Ideal of Buddhist education	
6	Aims of education	
7	Characteristics of Buddhist education	
8	Organization,finance	
9	curriculum	
10	Women Education	
11	Ideal of Islamic education	
12	Aims of education	
13	Organization ,finance	
14	Curriculum , womwn education	
15		
Unit III	Educational development of twentieth century	

	Lord curzons policy 1904	
	Lord curzons policy 1904	
	Gokhles Bill (1910-12)	
	Gokhles Bill (1910-12)	
	Calcutta University commission 1917	
	Basic education 1937	
	Basic education 1937	
	Surgnt committee report 1944	
	Surgnt committee report 1944	

Class/Semester-V-DSEED-503

Name of the paper –Inclusive education

Units Assigned-V- current trends and future perspective

Marks Assigned-80

Serial number of classes	Topic/ Unit	Remarks
1	concept of curriculum adoptions for children with divers needs	
2	Needs of curriculum adoptions for children with divers needs	
3	Curricular and co-curricular activities for meeting divers needs of children	
	Curricular and co-curricular activities for meeting divers needs of children	
4	Role of the agencies	
5	Facilely	
6	Community	
7	NGO,s	
8	Problems /constraints in education of socially disadvantaged chidren	
9	Problems /constraints in education of socially disadvantaged chidren-SC/ST	
10	Problems /constraints in education of socially disadvantaged chidren-OBC	
11	Problems /constraints in education of socially disadvantaged chidren-Rural	
12	Addressing social group inequality	
13	Multicultural education	
	Multicultural education	
14	Teaching learning process and support material	
15	Schemes and programmes for education of socially disadvantaged section	

16	Schemes and programmes for education of socially disadvantaged section	
17	Schemes and programmes for education of socially disadvantaged section	
18	Discussion	

Class/Semester-V (Non- CBCS)

Name of the paper-**TELG 501** Basics of Teaching in Elementary Level

Units Assigned- –**II Human growth and developmental stage**

Marks Assigned- 28

Serial number of classes	Topic/ Unit	Remarks
1	Concept of human growth and development	
2	Concept of human growth and development	
3	Characteristics of childhood	
5	Behavioural Taxonomy	
6	Cognitive	
7	affective	
8	psychomotor	
9	Discussion	

Class/Semester-V(Non-CBCS)

Name of the paper-502: Aspects of Teaching Learning Process

Units Assigned- –**I-The Teaching Learning Process**

Unit-II-Macro and Micro teaching

Marks Assigned- 25

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature Teaching and Learning	
2	Principles of teaching	
3	Principles of Learning	
5	General Maxims of Teaching	
6	General Maxims of Teaching	
7	Classroom Problems of Beginners	

8	Discussion	
Unit II-		
1	Concept of Macro and Micro Teaching	
2	Meaning and importance of lesson plan	
3	Herbertian steps of lesson plan	
4	Micro teaching skills	
5	Introducing a lesson	
6	Teaching of social studies	
7	Teaching of science	
8	Teaching of language	

Class/Semester-V (Non-CBCS)

Name of the paper-(601) Method and techniques of teaching

II preparing lesson plan and practice teaching

Marks Assigned- 30

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and Nature Teaching and Learning	
2	Principles of teaching	
3	Principles of Learning	
5	General Maxims of Teaching	
6	General Maxims of Teaching	
7	Classroom Problems of Beginners	
8	Discussion	
Unit II-		
1	Concept of Macro and Micro Teaching	
2	Meaning and importance of lesson plan	
3	Herbertian steps of lesson plan	
4	Micro teaching skills	
5	Introducing a lesson	
6	Teaching of social studies	
7	Teaching of science	
8	Teaching of language	

Class/Semester-VI-603 (Non –CBCS)

Name of the paper –**Education in world perspective**

Units Assigned- –**All**

Marks Assigned-80

Serial number of classes	Topic/ Unit	Remarks
1	Meaning of comparative education	
2	Nature and scope of national system of education/comparative education	
3	Historical background of comparative education	
4	Factors influencing national system of education	
5	Geographical	
6	historical	
7	political	
8	Economical	
9	social	
10	philosophical	
11	Linguistic and racial	
12	Secular and religious	
Unit II	Aims and objectives of national system of education	
1	U.S.A	
2	U.K	
3	JAPAN	
4	INDIA	
5	Discussion	
Unit III		
1	Methods of studying national system of education	
2	descriptive	
3	statistical	
4	Historical	
5	psychological	
6	scientific	
7	sociological	
Unit IV	development of education with respect to salient features organization ,administration and curriculam of primarysecondary and higher education of JAPAN, USA, UK, and INDIA	

1	Salient features of primary education in JAPAN, USA, UK, and INDIA	
2	Organization of primary education in JAPAN, USA, UK, and INDIA	
3	Administration of primary education in JAPAN, USA, UK, and INDIA	
4	Curriculum of primary education in JAPAN, USA, UK, and INDIA	
5	Salient features of secondary education in JAPAN, USA, UK, and INDIA	
6	Organization of secondary education in JAPAN, USA, UK, and INDIA	
7	Administration of secondary education in JAPAN, USA, UK, and INDIA	
8	Curriculum of secondary education in JAPAN, USA, UK, and INDIA	
10	Salient features of higher education in JAPAN, USA, UK, and INDIA	
9	Organization of higher education in JAPAN, USA, UK, and INDIA	
12	Administration of higher education in JAPAN, USA, UK, and INDIA	
10	Curriculum of higher education in JAPAN, USA, UK, and INDIA	
Unit V	Development of education with respect to organization curriculum and evaluation in context of Technical and Vocational , Distance and open learning, and women education of JAPAN, USA, UK, and INDIA	
1	Organization of technical and vocational education of USA ,UK,JAPAN and INDIA	
2	Curriculum of technical and vocational education of USA ,UK,JAPAN and INDIA	
3	Evaluation of technical and vocational education of USA ,UK,JAPAN and INDIA	
5	Organization of TEACHER education of USA ,UK,JAPAN and INDIA	
6	Curriculum of Teacher education of USA ,UK,JAPAN and INDIA	
7	Evaluation of Teacher education of USA ,UK,JAPAN and INDIA	

Course plan

Name of the Teacher- Sneha Gogoi

Course –Honors’– Education

Class/Semester- 1st

Name of the paper-Sociological Foundations of Education

Units Assigned-II – Education, social aspects and socialization process

Units Assigned-III- Role of Education in Social Changes and development

Units Assigned-IV- Education and Social groups

Marks Assigned- 16

UNIT II

Serial number of classes	Topic/ Unit	Remarks
1	Socialization: Meaning and process	
2	Education as a socialization process	
3	Agencies of Socialization-peer group, mass media, social media	
4	Agencies-home, school, society	
5	Role of agencies in socialization	
6	Emotional integration- meaning, importance	
7	National integration-Meaning, Importance	
8	Role of Education	
9	Modernization- Meaning, Characteristics	
10	Indicators	
11	Role of Education	
12	Impact of Modernization	

UNIT III

Serial number of classes	Topic/ Unit	Remarks
1	Social Change-Meaning and factors	
2	Relation between Education and Social change	
3	Cultural Change- Meaning, Factors	
4	Role of Education	
5	Economic Development- Meaning, Factors	
6	Role of Education	
7	Education as a development indicator	
8	Human resource development-Meaning	
9	Role of Education	

UNIT IV

Serial number of classes	Topic/ Unit	Remarks
1	Social Groups- Meaning, Characteristics	
2	Types of social groups	
3	Characteristics, social groups in Indian context	
4	Social disadvantage- Meaning, Causes	
5	Social disadvantage- Types	
6	Social inequality- Meaning, Causes	
7	Disadvantaged sections with special reference-ST, SC	
8	Social disadvantaged women, Role of education in improvement of women education	
9	Rural people and their problems	
10	Concepts of equity, equality	
11	Concept of access in education	
12	Reservation in Indian Education	

Course plan

Name of the Teacher- Sneha Gogoi

Course –Honors’– Education

Class/Semester-II

Name of the paper-Psychological Foundations of Education

Units Assigned-IV- **Personality and Mental health**

Marks Assigned- 20

Serial number of	Topic/ Unit	Remarks

classes		
1	Personality- Meaning and characteristics	
2	Factors of personality	
3	Type theories- Hippocrates, Sheldon	
4	Type theories-Kretchmer , Spranger, Jung	
5	Trait theories- Cattell, Eysenck	
6	Concept of balanced mature personality	
7	Criteria of a mentally healthy person	
8	Concept of mental health, mental hygiene	
9	Adjustment mechanism-fantasy, compensation	
10	Mechanism-identification, rationalization, sublimation	
11	Meaning of instinct, emotion and characteristics	
12	Educationally significant instincts-curiosity, acquisition	
13	Significant instincts-self assertiveness, herd instincts, sex instincts	
14	Relation between instincts and emotions	
15	Importance of emotional training in classroom	
16	Doubt clearing	

Course plan

Name of the Teacher- Sneha Gogoi

Course –Honors’–

Class/Semester-II

Name of the paper-Educational Management and Administration

Unit Assigned-III– Educational planning

Unit IV-Educational supervision

Marks Assigned- 16 per unit

Unit III

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and nature of Educational planning	
2	Scope	
3	Need of educational planning	
4	Importance of educational planning	
5	Principles of educational planning	
6	Types – Long term, short term planning	
7	Grass root level planning	
8	Institutional planning	
9	Factors affecting educational plan	
10	Concept and characteristics of school development plan	
11	Importance of school development plan	

Unit IV

Serial number of classes	Topic/ Unit	Remarks
1	Concept and characteristics of educational supervision	
2	Scope and objectives	
3	Functions of educational supervision	
4	Difference between supervision and inspection	
5	Importance of educational supervision	
6	Problems conducting educational supervision	
7	Factors influencing effectiveness of supervision	
8	Qualities of a good educational supervisor	
9	Solutions for problems of educational supervision	
10	Doubt clearance class	

Course plan

Name of the Teacher- Sneha Gogoi

Course –Honors’ –Education

Class/Semester-III

Name of the paper-Great educators and educational thoughts

Units Assigned II–Modern Indian educators and educational thoughts

Units Assigned III–Western educators and educational thoughts

Marks Assigned- 16 per unit

Unit II

Serial number of classes	Topic/ Unit	Remarks
1	Rabindranath Tagore-life philosophy	
2	Basic principles	
3	Tagore’s-Aims of education, curriculum, method of teaching	
4	Discipline	
5	Evaluation of Tagore’s philosophy	
6	Relevance of philosophy in twenty first century	
7	Vivekananda-philosophy of life	
8	Basic principles	
9	Vivekananda’s- Aims of education, curriculum, method of teaching	
10	Discipline	
11	Evaluation of Vivekananda’s philosophy	
12	Relevance of philosophy in twenty first century	
13	Gandhi- life philosophy	

14	Basic principles	
15	Gandhi's- Aims of education, curriculum, method of teaching	
16	Discipline	
17	Evaluation of Gandhi's philosophy	
18	Concept and background of basic education	

Unit III

Serial number of classes	Topic/ Unit	Remarks
1	Plato- Life philosophy	
2	Sources of knowledge	
3	Functions of education	
4	Forms and programmes of education	
5	Impacts of Plato's idealism	
6	Rousseau- Naturalism	
7	Negative education	
8	Stages of human development	
9	Aims of education, curriculum, methods of teaching	
10	Place of child and discipline	
11	Impact of Rousseau's naturalism in present education	

Course plan

Name of the Teacher- Sneha Gogoi

Course –Honors' –Education

Class/Semester-III

Name of the paper-Measurement and evaluation in education

Units Assigned II–**Psychological tests**

Marks Assigned- 16

Unit II

Serial number of classes	Topic/ Unit	Remarks
1	Meaning of test	
2	Individual and group test	
3	Objective and subjective test	
4	Power and speed test	
5	Verbal, non verbal and performance test	
6	Oral and written test	
7	Achievement, aptitude and personality test	
8	Teacher made test and standardized test	
9	Objectivity, reliability	
10	Validity, norms, administerability	

Course plan

Name of the Teacher- Sneha Gogoi

Course –Honors’– Education

Class/Semester-III

Name of the paper-Experimental psychology and laboratory practical

Units Assigned- IV- Learning

Marks Assigned- 13

Serial number of classes	Topic/ Unit	Remarks
1	Concept of learning	
2	Historical background of testing learning	
3	Types of learning	
4	Mirror learning- concept	
5	Historical background of mirror learning	
6	Explanation of the experiment	
7	Conclusion	

Class/Semester-IV

Name of the paper –TECHNIQUES OF TEACHING

Units Assigned- I- The teaching- learning process

Units Assigned- III- Methods and approaches of teaching

Marks Assigned- 16 per unit

Unit I

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and nature of teaching	
2	Evolving Concept of teaching	
3	Principles of teaching	
4	Principles of learning	
5	Maxims of teaching	

6	Pre active phase of teaching	
7	Interactive stage of teaching	
8	Post active stage of teaching	
9	Teaching behavior-authoritative, democratic	
10	Laissez-faire	
11	Classroom problems of beginners	

Unit III

Serial number of classes	Topic/ Unit	Remarks
1	Teacher and learner centered methods	
2	Play way method	
3	Activity method	
4	Discussion method	
5	Inductive deductive method	
6	Heuristic method	
7	Problem solving method	
8	Project method	
9	Grammar translation method	
10	Direct method	
11	Structural approach	
12	Communicative approach	

Class/Semester-IV

Name of the paper –TECHNIQUES OF TEACHING (4020)

Units Assigned- I- **Practice of following teaching skills through microteaching**

Marks Assigned- 7

Unit I

Serial number of classes	Topic/ Unit	Remarks
1	Introducing a lesson	
2	Blackboard writing	
3	Questioning	
4	Stimulus variation	
5	Reinforcement	
6	Explaining	
7	Achieving closure	

Class/Semester-V

Name of the paper –(DSEED503)Inclusive education

Units Assigned- I- Understanding children with diverse needs

Marks Assigned- 20

Units Assigned- II- Introduction to inclusive education

Marks Assigned- 18

Units Assigned- III- Policies and legislations for diverse needs education and rehabilitation

Marks Assigned- 22

Unit I

Serial number of classes	Topic/ Unit	Remarks
1	Concept and nature of children with diverse needs	
2	Types – children with visual impairment	
3	Children with hearing impairment	
4	Children with intellectual disability	
5	Children with specific learning disability	
6	Children with cerebral palsy	
7	Children with autistic disorder	
8	Children with multiple disabilities	
9	Children from other disadvantages or marginalized area- girl's, SC, ST	
10	Minorities, street and working children	

Unit II

Serial number of classes	Topic/ Unit	Remarks
1	Concept and nature of special education	
2	Concept and nature of inclusion	
3	Need and importance of inclusion	
4	Types of inclusion- physical, social, cognitive	
5	Inclusive education- concept and nature	
6	Objectives and importance of inclusive education	

7	Historical development of inclusive education in India	
8	Historical development in abroad	
9	Special, integrated and inclusive education	
10	Barriers of children with diverse needs to learning	
11	Remedies to solve the barriers and problems	

Unit III

Serial number of classes	Topic/ Unit	Remarks
1	Dakar: framework of action(2000)	
2	Millennium development goals(2000)	
3	United nations convention on the rights of persons with disabilities, 2006	
4	National policy on education with reference to programme of action, 1992	
5	Rehabilitation council of India act, 1992	
6	National trust act, 1999	
7	Right to education act 2009	
8	SSA	
9	Rastriya madhyamik shikshya abhiyan	
10	Discussion of question paper	

Class/Semester-V

Name of the paper –(DSEED504)Mental Health issues

Units Assigned- I- Fundamentals of mental health and hygiene

Units Assigned- II- Education and mental health

Units Assigned- III- Mental health and agencies of education

Units Assigned- IV- Positive psychology

Units Assigned- V- Yoga for mental health

Marks Assigned- 16 per unit

Unit I

Serial number of classes	Topic/ Unit	Remarks
1	Concept of mental health	
2	Criteria of mentally healthy person	
3	Concept, objectives, goals of mental hygiene	
4	Principles of mental hygiene	
5	History of development of mental health and hygiene	
6	Concept of normality and abnormality	
7	Types of abnormal behavior	
8	Types of abnormal behavior continuation	
9	Characteristics of a mentally healthy person	
10	Discussion of question answers	

Unit II

Serial number of classes	Topic/ Unit	Remarks
1	Principles of good mental health	
2	Factors affecting mental health- Home, society	
3	Factor- School	
4	Adjustment concept	
5	Adjustment processes	
6	Maladjustment causes and concept	
7	Types of maladjustment-frustration	
8	Types of maladjustment- conflict	
9	Adjustment mechanism-1	
10	Adjustment mechanism-2	

Unit III

Serial number of classes	Topic/ Unit	Remarks
1	Home and mental health	
2	Qualities of healthy home environment	

3	Child rearing practices	
4	Personality development	
5	School and mental health	
6	Teacher and mental health	
7	Community and mental health	

Unit IV

Serial number of classes	Topic/ Unit	Remarks
1	Concept of positive psychology	
2	Nature and scope of positive psychology	
3	Concept of resilience, empathy	
4	Concept of gratitude and forgiveness	
5	Concept of wellbeing	
6	Concept of pursuit of happiness	
7	Following of pursuit of happiness in life	
8	Discussion of questions	

Unit V

Serial number of classes	Topic/ Unit	Remarks
1	Concept of yoga	
2	Yoga as scientific method for development of personality	
3	Need of yoga for physical health	
4	Need of yoga for mental health	
5	Concept of health, healing and disease	
6	Yogic perspectives	
7	Yogic principles for healthy living	
8	Integrated approach of yoga for management of health	
9	Pranayama and meditation for promoting mental health	
10	Doubt clearing	

Department of Electronics

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Ankit Chhetri

Course –Honours

Class/Semester- 1st

Name of the Paper- C2- **SEQUENCE AND SERIES**

Units Assigned-Unit- III

Marks Assigned - 14

Class	Topic/ Unit	Remarks
	Unit – 3	
1	Sequence, Limit of a sequence	
2	Limit of a sequence, Convergence	
3	Divergence and Oscillation of a sequence	
4	Oscillation of a sequence, Infinite series	
5	Infinite series, Necessary condition for Convergence	
6	Cauchy's Integral Test	
7	Cauchy's Integral Test	
8	D'Alembert's Ratio Test	
9	D'Alembert's Ratio Test, Cauchy's nth Root Test	
10	Cauchy's nth Root Test, Alternating series	
11	Alternating series, Leibnitz Theorem	
12	Leibnitz Theorem	
13	Absolute Convergence and Conditional Convergence	
14	Power series	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Ankit Chhetri

Course –Honours

Class/Semester- 3rd

Name of the Paper- C-7- **C PROGRAMMING AND DATA STRUCTURES (THEORY)**

Units Assigned- ALL

Marks Assigned- 60

Class	Topic/ Unit	Remarks
	Unit – 1	
1	Introduction, Importance of C, Character set	
2	Tokens, Keywords, Identifier, Constants	
3	Basic data types, Variables: declaration and assigning values.	
4	Structure of C program, Arithmetic operators	
5	Relational operators, logical operators, Assignment operators	
6	Increment and decrement operators, Conditional operators, bitwise operators	
7	Expressions and evaluation of expressions	

8	Type cast operator, implicit conversions, precedence of operators.	
9	Arrays-concepts, declaration, accessing elements,	
10	Storing elements, two-dimensional and multi-dimensional arrays.	
11	Input output statement and library functions (math and string related functions).	
12	Input output statement and library functions (math and string related functions).	
	Unit – 2	
13	Decision making, branching and looping: if, if-else, else-if,	
14	if, if-else, else-if	
15	switch statement, break	
16	switch statement, break, for loop	
17	For loop	
18	For loop, While loop	
19	While loop, do while loop	
20	Do while loop, functions	
21	Defining functions, function arguments and passing,	
22	Defining functions, function arguments and passing, returning values from functions.	
23	Defining and declaring a structure variables, accessing structure members	
24	Defining and declaring a structure variables, accessing structure members	
25	initializing a structure, copying and comparing structure variables,	
26	initializing a structure, copying and comparing structure variables,	

27	array of structures,	
28	Arrays within structures, structure within structure	
39	structure within structure, structures and functions	
30	Pointers	
31	Pointers	
32	Object oriented programming, characteristics of an object-oriented language.	
	Unit – 3	
33	Definition of stack, array implementation of stack	
34	Definition of stack, array implementation of stack	
35	conversion of infix expression to prefix,	
36	postfix expressions, evaluation of postfix expression.	
37	evaluation of postfix expression.	
38	Definition of Queue, Circular queues	
39	Circular queues	
40	Array implementation of queues	
41	Linked List and its implementation,	
42	Linked List and its implementation,	
43	Link list implementation of stack and queue,	
44	Link list implementation of stack and queue,	
45	Circular and doubly linked list.	
46	Circular and doubly linked list.	
	Unit – 4	
47	Insertion sort	
48	Insertion sort,	

49	Selection sort	
50	Selection sort	
51	bubble sort	
52	Merge sort	
53	Linear search	
54	Binary search	
55	Introduction to trees, Binary search tree,	
56	Binary search tree, Insertion and search in BST	
57	Insertion and search in BST	
58	pre order, post order and in order traversal (recursive)	
59	pre order, post order and in order traversal (recursive)	
60	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Ankit Chhetri

Course –Honours

Class/Semester- 5th

Name of the Paper- DSE – I - **POWER ELECTRONICS**

Units Assigned- ALL

Marks Assigned- 60

Class	Topic/ Unit	Remarks

	Unit – 1	
1	Need for semiconductor power devices, Power diodes	
2	Power diodes,	
3	Enhancement of reverse blocking capacity,	
4	Introduction to Thyristor family	
5	SCR(Silicon Controlled Rectifier), Structure of SCR	
6	Structure and V-I characteristics	
7	Turn-On and Turn-Off characteristics of SCR	
8	ratings, Factors affecting the characteristics/ratings of SCR,	
9	Gate-triggering circuits, Control circuits design	
10	Gate-triggering circuits, Control circuits design	
11	Protection circuits	
12	Protection circuits, Snubber circuit.	
	Unit – 2	
13	Basic structure, working and V-I characteristic of DIAC	
14	Basic structure, working and V-I characteristic of TRIAC	
15	Basic structure, working and V-I characteristic of TRIAC, application of a DIAC as a triggering device for a TRIAC.	
16	Basic structure, I-V Characteristics of IGBT	
17	Switching characteristics, device limitations and safe operating area (SOA) etc	
18	SCR as a static switch, phase controlled rectification	
19	Single phase half wave with inductive & non-inductive loads,	
20	Single Phase full wave rectifier with inductive & non-inductive loads,	
21	bridge rectifiers with inductive & non-inductive loads	
22	AC voltage control using SCR and Triac as a switch.	

23	Operation modes, switching characteristics of Power MOSFETs	
24	Power BJT, second breakdown, saturation and quasi-saturation state.	
25	Power BJT, second breakdown, saturation and quasi-saturation state.	
26	Revision	
	Unit – 3	
27	Need for commutating circuits and their various types	
28	Need for commutating circuits and their various types	
29	d.c. link invertors	
30	Parallel capacitor commutated invertors with and without reactive feedback and its analysis,	
31	Parallel capacitor commutated invertors with and without reactive feedback and its analysis,	
32	Series Invertor, limitations and its improved versions	
33	Series Invertor, limitations and its improved versions	
34	bridge invertors	
35	basic chopper circuit, types of choppers(Type A-D),	
36	basic chopper circuit, types of choppers(Type A-D),	
37	basic chopper circuit, types of choppers(Type A-D),	
38	step-down chopper, step-up chopper	
39	operation of d.c. chopper circuits using self commutation (A & B-type commutating circuit),	
40	operation of d.c. chopper circuits using self commutation (A & B-type commutating circuit),	
41	cathode pulse turn-off chopper(using class D commutation)	
42	cathode pulse turn-off chopper(using class D commutation), load sensitive cathode pulse turnoff chopper (Jones Chopper),	

43	load sensitive cathode pulse turnoff chopper (Jones Chopper), Morgan's chopper	
	Unit – 4	
44	DC Motors	
45	Basic understanding of field and armature,	
46	Principle of operation of DC Motor	
47	EMF equation, Back EMF	
48	EMF equation, Back EMF, Factors controlling motor speed	
49	Factors controlling motor speed	
50	Thyristor based speed control of dc motors	
51	AC motor (Induction Motor only),	
52	AC motor (Induction Motor only),	
53	Rotor and stator	
54	Rotor and stator	
55	torque & speed of induction motor	
56	torque & speed of induction motor	
57	Thyristor control of ac motors (block diagrams only).	
58	Revision	
59	Revision	
60	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Ankit Chhetri

Course –Honours

Class/Semester- 5th

Name of the Paper- DSE – II - **MODERN COMMUNICATION SYSTEMS (THEORY)**

Units Assigned- Unit- I, III

Marks Assigned- 30

Class	Topic/ Unit	Remarks
	Unit - 1	
1	DPCM (Differential Pulse Code Modulation)	
2	DPCM (Differential Pulse Code Modulation)	
3	DM (Delta Modulation)	
4	DM (Delta Modulation)	
5	ADM (Adaptive Delta Modulation)	
6	ADM (Adaptive Delta Modulation)	
7	Binary Line Coding Technique	
8	Multi level coding	
9	QAM (Modulation and Demodulation)	
10	QAM (Modulation and Demodulation)	
	Unit – 2	
11	Concept of cellular mobile communication – cell and cell splitting	
12	Concept of cellular mobile communication – cell and cell splitting, frequency bands used in cellular communication	
13	absolute RF channel numbers (ARFCN)	
14	frequency reuse, roaming and hand off	
15	frequency reuse, roaming and hand off	
16	authentication of the SIM card of the subscribers	
17	IMEI number, concept of data encryption	

18	concept of data encryption, architecture (block diagram) of cellular mobile communication network	
19	architecture (block diagram) of cellular mobile communication network	
20	CDMA technology, CDMA overview	
21	CDMA technology, CDMA overview	
22	CDMA technology, CDMA overview	
23	simplified block diagram of cellular phone handset	
24	Comparative study of GSM and CDMA, 2G, 3G and 4G concepts.	
25	Comparative study of GSM and CDMA, 2G, 3G and 4G concepts.	
26	Comparative study of GSM and CDMA, 2G, 3G and 4G concepts.	
27	Comparative study of GSM and CDMA, 2G, 3G and 4G concepts.	
28	Comparative study of GSM and CDMA, 2G, 3G and 4G concepts.	
29	Revision	
30	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 1st

Name of the Paper- C-1- **BASIC CIRCUIT THEORY AND NETWORK ANALYSIS**

Units Assigned- Unit-4

Marks Assigned- 16

Class	Topic/ Unit	Remarks
1	Principal of Duality, Superposition Theorem	
2	Principal of Duality, Superposition Theorem	
3	Thevenin's Theorem	
4	Norton's Theorem	
5	Reciprocity Theorem	
6	Millman's Theorem	
7	Maximum Power Transfer Theorem	
8	AC circuit analysis using Network theorems	
9	AC circuit analysis using Network theorems	
10	Impedance (Z) Parameters	Two Port Networks
11	Impedance (Z) Parameters	
12	Admittance (Y) Parameters	
13	Admittance (Y) Parameters	
14	Transmission (ABCD) Parameters	
15	Transmission (ABCD) Parameters	
16	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 1st

Name of the Paper- C2-**MATHEMATICS FOUNDATION FOR ELECTRONICS**

Units Assigned- Unit- I, II, IV

Marks Assigned- 46

Class	Topic/ Unit	Remarks
1	First Order Ordinary Differential Equations	
2	First Order Ordinary Differential Equations	
3	Separable Ordinary Differential Equations	
4	Exact Ordinary Differential Equations	
5	Exact Ordinary Differential Equations and Linear Ordinary Differential equations	
6	Linear Ordinary Differential equations	
7	Second Order Homogeneous and Non-Homogeneous Differential Equations	
8	Second Order Homogeneous and Non-Homogeneous Differential Equations	
9	Power series method	
10	Power series method	
11	Legendre polynomials	
12	Frobenius Method	
13	Bessel's functions of first and second kind	
14	Bessel's functions of first and second kind	
15	Error functions and gamma function.	
16	Error functions and gamma function	
17	Introduction to Matrices	
18	System of Linear Algebraic Equations	
19	Gaussian Elimination Method, Gauss -Seidel Method	
20	LU decomposition	
21	Solution of Linear System by LU decomposition	
22	Eigen Values and Eigen Vectors, Linear Transformation	
23	Properties of Eigen Values and Eigen Vectors, Cayley-Hamilton Theorem	
24	Diagonalization, Powers of a Matrix.	
25	Real and Complex Matrices	
26	Real and Complex Matrices	
27	Symmetric, Skew Symmetric, Orthogonal Quadratic Form	

28	Symmetric, Skew Symmetric, Orthogonal Quadratic Form	
29	Hermitian, Skew Hermitian	
30	Hermitian, Skew Hermitian, Unitary Matrices.	
31	Complex Variable, Complex Function,	
32	Continuity, Differentiability, Analyticity	
33	Cauchy-Riemann (C- R) Equations	
34	Harmonic and Conjugate Harmonic Functions	
35	Exponential Function, Trigonometric Functions, Hyperbolic Functions.	
36	Exponential Function, Trigonometric Functions, Hyperbolic Functions.	
37	Line Integral in Complex Plane, Cauchy's Integral Theorem	
38	Cauchy's Integral Formula, Derivative of Analytic Functions.	
39	Cauchy's Integral Formula, Derivative of Analytic Functions.	
40	Sequences, Series and Power Series	
41	Sequences, Series and Power Series	
42	Taylor's Series, Laurent Series	
43	Taylor's Series, Laurent Series	
44	Zeroes and Pole	
45	Residue integration method, Residue integration of real Integrals.	
46	Residue integration method, Residue integration of real Integrals.	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 2nd

Name of the Paper- C-4- **APPLIED PHYSICS**

Units Assigned- ALL

Marks Assigned- 60

Class	Topic/ Unit	Remarks
1	Inadequacies of Classical physics, Compton's effect	
2	Photo-electric Effect	
3	Wave-particle duality, de Broglie waves	
4	Wave-particle duality, de Broglie waves	
5	Basic postulates and formalism of quantum mechanics	
6	probabilistic interpretation of waves	
7	conditions for physical acceptability of wave functions.	
8	Schrodinger wave equation for a free particle and in a force field (1 dimension)	
9	Boundary and continuity conditions, Operators in Quantum Mechanics.	
10	Conservation of probability, Time-dependent form	
11	Conservation of probability, Time-dependent form	
12	Linearity and superposition of Operators, Time-independent one-dimensional Schrodinger wave equation	
13	Stationary states, Eigen-values and Eigen functions	
14	Particle in a one-dimensional box, Extension to a three-dimensional box	
15	Potential barrier problems, phenomenon of tunneling	
16	Kronig Penney Model and development of band structure	
17	Kronig Penney Model and development of band structure	
18	Spherically symmetric potentials	
19	Hydrogen-like atom problem	
20	Revision	
21	Elastic and Plastic Deformations	
22	Hooke's Law	

23	Elastic Moduli	
24	Brittle and Ductile Materials	
25	Tensile Strength, Theoretical and Critical Shear Stress of Crystals	
26	Tensile Strength, Theoretical and Critical Shear Stress of Crystals	
27	Strengthening Mechanisms	
28	Strengthening Mechanisms, Hardness, Creep, Fatigue, Fracture	
29	Hardness, Creep, Fatigue, Fracture.	
30	Revision	
31	Brief Introduction to Laws of Thermodynamics	
32	Concept of Entropy	
33	Concept of Phonons	
34	Heat Capacity, Debye's Law	
35	Heat Capacity, Debye's Law	
36	Lattice Specific Heat, Electronic Specific Heat	
37	Lattice Specific Heat, Electronic Specific Heat	
38	Specific Heat Capacity for Si and GaAs	
39	Specific Heat Capacity for Si and GaAs	
40	Thermal Conductivity	
41	Thermoelectricity	
42	Seebeck Effect	
43	Thomson Effect	
44	Peltier Effect	
45	Revision	
46	Conductivity of metals, Ohm's Law,	
47	relaxation time, collision time and mean free path	
48	electron scattering and resistivity of metals	
49	heat developed in current carrying conductor	
50	Superconductivity	
51	Classification of Magnetic Materials	
52	Origin of Magnetic moment, Origin of dia, para, ferro and anti-ferro magnetism and their comparison	
53	Origin of Magnetic moment, Origin of dia, para, ferro and anti-ferro magnetism and their comparison	
54	Ferrimagnetic materials, Saturation Magnetisation and Curie temperature	
55	Ferrimagnetic materials, Saturation Magnetisation and Curie temperature	
56	Magnetic domains, Concepts of Giant Magnetic Resistance (GMR)	
57	Magnetic domains, Concepts of Giant Magnetic Resistance (GMR)	
58	Magnetic recording	
59	Magnetic recording	
60	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 3rd

Name of the Paper- C-5- ELECTRONICS CIRCUITS

Units Assigned- Unit-4

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1	Depletion and Enhancement MOSFET	MOSFET
2	Biasing of MOSFETs	
3	Biasing of MOSFETs	
4	Small Signal Parameters	
5	Small Signal Parameters	
6	Common Source amplifier circuit analysis	
7	CMOS circuits	
8	CMOS circuits	
9	Difference between voltage and power amplifier, classification of power amplifiers	Power Amplifiers
10	Difference between voltage and power amplifier, classification of power amplifiers	
11	Class A, Class B, Class C and their comparisons	
12	Class A, Class B, Class C and their comparisons	
13	Operation of a Class A single ended power amplifier	
14	Circuit operation of complementary symmetry Class B push pull power amplifier	
15	crossover distortion, heat sinks	
16	Circuit diagram, Working and Frequency Response	Single tuned amplifiers
17	Circuit diagram, Working and Frequency Response	
18	Limitations of single tuned amplifier, Applications of tuned amplifiers in communication circuits	
19	Limitations of single tuned amplifier, Applications of tuned amplifiers in communication circuits	
20	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 3rd

Name of the Paper- C-6- **DIGITAL ELECTRONICS AND VERILOG/VHDL**

Units Assigned- ALL

Marks Assigned- 60

Class	Topic/ Unit	Remarks
1	Decimal, Binary, Hexadecimal and Octal number systems, base conversions,	
2	Binary, Octal and Hexadecimal arithmetic (addition, subtraction by complement method, multiplication),	
3	representation of signed and unsigned numbers, Binary Coded Decimal code.	
4	Introduction to Boolean Algebra and Boolean operators	
5	Basic postulates and fundamental theorems of Boolean algebra	
6	Truth Tables of OR, AND, NOT, XOR, XNOR	
7	Universal (NOR and NAND) gates	
8	Fan-in, Fan out, Noise Margin, Power Dissipation, Figure of merit, Speed power product	
9	TTL and CMOS families and their comparison.	
10	TTL and CMOS families and their comparison.	
11	TTL and CMOS families and their comparison.	
12	Revision	
13	Standard representation of logic functions (SOP and POS)	
14	Karnaugh map minimization	
15	Encoder	
16	ecoder	
17	Multiplexers	
18	Implementing logic functions with multiplexer	
19	Demultiplexers	
20	binary Adder	
21	binary subtractor	
22	parallel adder/subtractor	
23	parallel adder/subtractor	
24	Revision	
25	Latches and Flip flops	
26	S-R Flip flop	
27	J-K Flip flop	
28	T and D type Flip flop	

29	Clocked and edge triggered Flip flops	
30	master slave flip flop	
31	Registers	
32	Registers	
33	Counters (synchronous and asynchronous and modulo-N)	
34	Counters (synchronous and asynchronous and modulo-N)	
35	State Table, State Diagrams	
36	counter design using excitation table and equations	
37	Ring counter and Johnson counter	
38	Ring counter and Johnson counter	
39	Basic concepts- ROM, PLA, PAL, CPLD, FPGA	
40	Basic concepts- ROM, PLA, PAL, CPLD, FPGA	
41	Basic concepts- ROM, PLA, PAL, CPLD, FPGA	
42	Revision	
43	A Brief History of HDL, Structure of HDL Module	
44	Comparison of VHDL and Verilog	
45	Introduction to Simulation and Synthesis Tools, Test Benches. VHDL Modules	
46	Delays, data flow style, behavioural style, structural style	
47	mixed design style, simulating design	
48	Introduction to Language Elements, Keywords, Identifiers, White Space Characters, Comments, format.	
49	VHDL terms, describing hardware in VHDL, entity, architectures, concurrent signal assignment, event scheduling, statement concurrency, structural designs, sequential behaviour, process statements, process declarative region, process statement region, process execution, sequential statements, architecture selection, configuration statements, power of configurations.	
50	VHDL terms, describing hardware in VHDL, entity, architectures, concurrent signal assignment, event scheduling, statement concurrency, structural designs, sequential behaviour, process statements, process declarative region, process statement region, process execution, sequential statements, architecture selection, configuration statements, power of configurations.	
51	Introduction to behavioural modelling, inertial delay, transport delay , inertial delay model, transport delay model, transport vs inertial delay,	
52	Introduction to behavioural modelling, inertial delay, transport delay , inertial delay model, transport delay model, transport vs inertial delay,	
53	simulation delta drivers, driver creation, generics, block statements, guarded blocks.	
54	Process statement, sensitivity list, signal assignment vs variable assignment, sequential statements, IF, CASE, LOOP, NEXT, EXIT and ASSERT statements	
55	Process statement, sensitivity list, signal assignment vs variable assignment, sequential statements, IF, CASE, LOOP, NEXT, EXIT and ASSERT statements	
56	assertion BNF, WAIT ON signal, WAIT UNTIL expression,	

	WAIT FOR time expression, multiple wait conditions, WAIT Time-Out, Sensitivity List vs WAIT Statement Concurrent Assignment, Passive Processes.	
57	assertion BNF, WAIT ON signal, WAIT UNTIL expression, WAIT FOR time expression, multiple wait conditions, WAIT Time-Out, Sensitivity List vs WAIT Statement Concurrent Assignment, Passive Processes.	
58	Object types-signal, variable, constant, Data types– scalar types, composite types, incomplete types, File Type caveats, subtypes, Subprograms and functions	
59	Object types-signal, variable, constant, Data types– scalar types, composite types, incomplete types, File Type caveats, subtypes, Subprograms and functions	
60	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 3rd

Name of the Paper- C-7- C PROGRAMMING AND DATA STRUCTURES

Units Assigned- UNIT-3, 4

Marks Assigned- 28

Class	Topic/ Unit	Remarks
1	Definition of stack, array implementation of stack	Data Structures
2	conversion of infix expression to prefix, postfix expressions, evaluation of postfix expression	
3	conversion of infix expression to prefix, postfix expressions, evaluation of postfix expression	
4	conversion of infix expression to prefix, postfix expressions, evaluation of postfix expression	
5	Definition of Queue, Circular queues	
6	Array implementation of queues	
7	Array implementation of queues	
8	Linked List and its implementation	
9	Link list implementation of stack and queue	
10	Link list implementation of stack and queue	
11	Circular and doubly linked list.	
12	Circular and doubly linked list.	
13	Circular and doubly linked list.	
14	Revision	
15	Insertion sort,	Searching and sorting
16	selection sort	
17	bubble sort	
18	merge sort	
19	linear Search	
20	binary search	
21	Introduction to trees	Trees
22	Binary search tree,	
23	Insertion and searching in a BST	
24	Insertion and searching in a BST	
25	pre order	
26	post order	
27	order traversal (recursive)	
28	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 4th

Name of the Paper- C-9- **SIGNALS AND SYSTEMS**

Units Assigned- ALL

Marks Assigned- 60

Class	Topic/ Unit	Remarks
1	Continuous and discrete time signals	
2	Continuous and discrete time signals	
3	Continuous and discrete time signals	
4	Transformation of the independent variable	
5	Transformation of the independent variable	
6	Transformation of the independent variable	
7	Exponential signals	
8	sinusoidal signals	
9	Impulse functions	
10	unit step functions	
11	Continuous-Time and Discrete-Time Systems	
12	Continuous-Time and Discrete-Time Systems	
13	Continuous-Time and Discrete-Time Systems	
14	Basic System Properties	
15	Basic System Properties	
16	Basic System Properties	
17	Basic System Properties	
18	Revision	
19	Discrete time LTI systems	
20	Discrete time LTI systems	
21	Convolution Sum	
22	Continuous time LTI systems	
23	Continuous time LTI systems	
24	Convolution integral	
25	Properties of LTI systems	
26	LTI systems with and without memory	
27	Causality, Stability, Unit Step response	
28	Differential and Difference equation formulation	
29	Block diagram representation of first order systems	
30	Revision	
31	Continuous-Time periodic signals	

32	Convergence of the Fourier series	
33	Properties of continuous-Time Fourier series	
34	Properties of continuous-Time Fourier series	
35	Discrete-Time periodic signals	
36	Properties of Discrete-Time Fourier series	
37	Properties of Discrete-Time Fourier series	
38	Frequency-Selective filters	
39	Simple RC highpass and lowpass filters	
40	Simple RC highpass and lowpass filters	
41	Aperiodic signals, Periodic signals,	
42	Properties of Continuous-time Fourier transform	
43	Convolution and Multiplication Properties	
44	Convolution and Multiplication Properties	
45	Properties of Fourier transform	
46	Properties of Fourier transform	
47	Fourier transform Pairs	
48	Revision	
49	Laplace Transform	
50	Laplace Transform	
51	Inverse Laplace Transform	
52	Properties of the Laplace Transform,	
53	Properties of the Laplace Transform,	
54	Laplace Transform Pairs	
55	Laplace Transform for signals,	
56	Laplace Transform Methods in Circuit Analysis	
57	Impulse and Step response of RL circuit	
58	Impulse and Step response of RC circuit	
59	Impulse and Step response of RLC circuit	
60	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 4th

Name of the Paper- C-10- **ELECTRONIC INSTRUMENTATION**

Units Assigned- Unit- III, IV

Marks Assigned- 30

Class	Topic/ Unit	Remarks
1	CRT	
2	wave form display and electrostatic focusing, time base and sweep synchronization	
3	measurement of voltage, frequency and phase by CRO	
4	Oscilloscope probes, Dual trace oscilloscope	
5	Oscilloscope probes, Dual trace oscilloscope	
6	Sampling Oscilloscope	
7	DSO	
8	Powerscope	
9	Powerscope	
10	CRO specifications	
11	Audio oscillator	
12	Audio oscillator, Pulse Generator	
13	Pulse Generator	
14	Function generator	
15	Revision	
16	Classification of transducers	
17	Basic requirement/characteristics of transducers, active & passive transducers	
18	Resistive transducers	
19	Resistive transducers	
20	Capacitive transducers	
21	Capacitive transducers	
22	Inductive transducers	
23	piezoelectric transducers	
24	Measurement of displacement, velocity and acceleration	
25	Measurement of pressure	
26	Measurement of temperature	
27	Measurement of temperature	
28	Light transducers	

29	Light transducers	
30	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 5th

Name of the Paper- C-11- **MICRO PROCESSOR AND MICROCONTROLLER**

Units Assigned- ALL

Marks Assigned- 60

Class	Topic/ Unit	Remarks
1	Introduction, Applications, Basic block diagram of microprocessors	
2	Speed, Word size, Memory capacity, Classification of microprocessors	
3	Features, Architecture of 8085	
4	General purpose registers, register pairs, flags	
5	stack pointer, program counter, types of buses	
6	Multiplexed address and data bus, generation of control signals, pin description of microprocessor 8085	
7	Basic interfacing concepts, Memory mapped I/O and I/O mapped I/O	
8	Basic interfacing concepts, Memory mapped I/O and I/O mapped I/O	
9	Operation code, Operand & Mnemonics	
10	Instruction set of 8085	
11	instruction classification, addressing modes, instruction format	
12	instruction classification, addressing modes, instruction format	
13	Assembly language programming examples.	
14	Assembly language programming examples.	
15	Assembly language programming examples.	
16	Revision	
17	Stack operations, subroutine, call and return instructions	
18	Stack operations, subroutine, call and return instructions	
19	Delay loops, use of counters, timing diagrams-instruction cycle, machine cycle	
20	Delay loops, use of counters, timing diagrams-instruction cycle, machine cycle	

21	T- states, time delay	
22	Interrupt structure of 8085A microprocessor, processing of vectored and non-vectored interrupts	
23	latency time and response time; Handling multiple interrupts	
24	Introduction, Different types of microcontroller and architecture	
25	Harvard vs. Princeton, CISC vs. RISC	
26	microcontroller memory types, microcontroller features, clocking, I/O pins,	
27	interrupts, timers, peripherals	
28	Revision	
29	Introduction to 8051, 8051 family microcontroller, Core features	8051
30	Architecture, pin diagram	
31	memory organization- Program and data memory organization	
32	I/O Ports	
33	oscillator module	
34	Timer modules (Timer 0, Timer 1 and Timer 2)	
35	Timer modules (Timer 0, Timer 1 and Timer 2)	
36	Revision	
37	Core features, Architecture	PIC16F887
38	pin diagram, memory organization	
39	Program and data memory organization, I/O Ports	
40	oscillator module,	
41	Timer modules	
42	comparator module	
43	analog-to-digital converter (ADC) module	
44	data EEPROM	
45	Enhanced capture/compare/PWM module	
46	EUSART	
47	master synchronous serial port (MSSP) module	
48	special features of the CPU	
49	Interrupts, addressing modes	
50	instruction set	
51	instruction set	
52	Revision	
53	LED, Switches, Solid State Relay	Interfacing
54	Seven Segment Display, 16x2 LCD display	
55	4x4 Matrix Keyboard	
56	Digital to Analog Converter	
57	Stepper Motor and DC Motor	
58	Interfacing program examples using C language.	
59	Interfacing program examples using C language.	
60	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 5th

Name of the Paper- DSE-2- **MODERN COMMUNICATION SYSTEMS**

Units Assigned- UNIT: 2, 4

Marks Assigned- 30

Class	Topic/ Unit	Remarks
1	Introduction of Optical Fiber, Types of Fiber	
2	Guidance in Optical Fiber, Attenuation and Dispersion in Fiber	
3	Attenuation and Dispersion in Fiber	
4	Optical Sources	
5	Optical Sources	
6	Optical Detectors,	
7	Block Diagram of optical communication system	
8	optical power budgeting	
9	optical power budgeting	
10	Revidion	
11	Introduction, need, satellite orbits	Satellite communication
12	advantages and disadvantages of geostationary satellites	
13	Satellite visibility, satellite system – space segment	
14	Satellite visibility, satellite system – space segment	
15	block diagrams of satellite sub systems	
16	block diagrams of satellite sub systems	
17	effect of solar eclipse, path loss, ground station, simplified block diagram of earth station.	
18	effect of solar eclipse, path loss, ground station, simplified block diagram of earth station.	
19	Satellite access, TDMA, FDMA	
20	comparison of TDMA and FDMA,	
21	CDMA concepts	
22	GPS- (SPS & PPS)	
23	Primary characteristics of Ethernet-mobile IP	Local area networks (LAN)
24	OSI model	
25	OSI model	
26	wireless LAN requirements	
27	Bluetooth	
28	Wi-Fi	

29	WiMAX	
30	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 5th

Name of the Paper- 501-Analog Communication

Units Assigned- UNIT-3, 4

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1	Communication channels for AM and FM broadcast	Transmitters
2	AM transmitter	
3	Low level and high level modulation	
4	FM transmitter	
5	Receiver parameters	Receivers
6	Super Heterodyne Receiver	
7	Double Conversion Receiver	
8	AM receivers, FM receivers	
9	Frequency Division Multiplexing	
10	Radio reception at different frequencies, reflected wave, ground wave,	
11	line of sight and through satellite aerials-radiation resistance	
12	Picture elements, principle of image transmission, TV camera tubes	
13	image orthicon & vidicon	
14	electron beam scanning, synchronization-horizontal & vertical synchronization pulses, blanking horizontal & vertical.	
15	Telephony, Telegraphy, radar	
16	block diagram of pulsed & CW radar transmitter & receiver	
17	radar range equation, power & frequency consideration	
18	e-mail, fax, internet, mobile communication	
19	basic principle of satellite communication	
20	IMPATT, TRAPAIT, BARTTT	
21	IMPATT, TRAPAIT, BARTTT	
22	basic idea of gun & PIN diodes	
23	travelling wave tubes(TWT)	
24	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 5th

Name of the Paper- 501- C PROGRAMMING AND DATA STRUCTURES

Units Assigned- UNIT-3, 4

Marks Assigned- 28

Class	Topic/ Unit	Remarks
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DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 5th

Name of the Paper- 501- C PROGRAMMING AND DATA STRUCTURES

Units Assigned- UNIT-3, 4

Marks Assigned- 28

Class	Topic/ Unit	Remarks
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DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 5th

Name of the Paper- 503- Introduction to computer and programming

Units Assigned- UNIT- 4

Marks Assigned- 13

Class	Topic/ Unit	Remarks
1	Introduction to MATLAB	
2	numerical Methods	
3	numerical Methods	
4	Communication using MATLAB	
5	Communication using MATLAB	
6	Introduction to SIMULINK	
7	Model design	
8	Examples	
9	Examples	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 6th

Name of the Paper- 602- Microprocessor & Microcontroller

Units Assigned- All

Marks Assigned- 80

Class	Topic/ Unit	Remarks
1	Introduction to microprocessors and microcomputers, machine language, assembly language and high level language	
2	Microprocessor architecture, types of buses, registers,	
3	Memory mapping	
4	Basic idea of INTEL 8085, 8086, 80386, 80486, Pentium processors	
5	pin-out diagram	8085
6	classification of the signals	
7	bus timings	
8	types of machine cycles and their functioning	
9	types of machine cycles and their functioning	
10	Revision	
11	8085 programming model	8085 programming
12	Accumulator, register and flags	
13	instruction classification & programming concepts	
14	stack and subroutine	
15	delay subroutines	
16	Code conversion	
17	BCD Arithmetic	
18	introduction to transmission format	
19	modes of data transfer	
20	Interrupts: Maskable and non-maskable interrupts	
21	RST (Restart), vectored interrupts	
22	instructions (SIM & RIM)	
23	Revision	
24	Primary & Secondary Memory, Memory Mapping	
25	Memory Mapping	
26	Serial and Parallel I/O & Memory	
27	Interfacing with 8085	
28	Programmable I/O and DMA	
29	Memory Mapped I/O and I/O Mapped I/O	

	techniques	
30	8255-Programmable Peripheral Interface	
31	8255-Programmable Peripheral Interface	
32	8253- Programmable interval Timer	
33	8259- Priority Interrupt Controller	
34	8279-Programmable Keyboard/Display Interface	
35	8251- USART	
36	8237/8257- Programmable DMA Controller	
37	Revision	
38	Introduction to microcontrollers, advantages of microcontrollers	Microcontroller
39	8031/8051 Microcontroller	
40	Architecture, register bank, flags	
41	special function registers	
42	I/O ports	
43	timers	
44	serial communication	
45	interrupts, instruction set	
46	instruction set	
47	Introduction to 8086	
48	Introduction to 8086 & 6800	
49	Introduction to 6800	
50	Revision	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Nabadweep Chamuah

Course –Honours

Class/Semester- 6th

Name of the Paper- 603- Power Electronics

Units Assigned- UNIT-3, 4

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1	Concepts of power diodes and power transistors	
2	Concepts of power transistors	
3	Concept of thyristor technology, ratings, symbol	
4	Thyristor characteristics	Thyristor
5	turn on methods and turn off methods	
6	turn on methods and turn off methods	
7	diacs,	
8	SCS,SVS,	
9	LASCR, SBS	
10	triacs and MOSFETS	
11	Internal power dissipation and need for heat sinks for these devices	
12	Revision	
13	Automatic battery charger	switching circuits
14	Voltage regulator	
15	Emergency light	
16	Time delay relay circuit	
17	Fan speed control, Temperature control	
18	Speed control of DC and small DC motors	
19	SMPS	
20	UPS	
21	Equipment hazardous	
22	Equipment hazardous	
23	Isolation transformers	
24	Electrical or chemical fire extinguishers	
25	Revision	

Department of English

DIGBOI COLLEGE, DIGBOI

Course Plan (Session June 2020- December 2021)

Department Of English

Name of the Teacher- Sanjoy Das

Course –10310

Class/Semester- B.A. 1st Semester

Name of the Paper- AECC 1: English Communication

Units Assigned- Unit – I, II, III & IV

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Unit I: Communication: Theory & Types Types and modes of Communication	
2.	Theories of Communication	
3.	Verbal & Non –Verbal Communication	
4.	Effective communication: Barriers, Solutions	
5.	Intra Personal, Inter Personal & Group Communication	
6.	Different theories of Communication	
7.	Discussion/ Tutorial	
8.	Unit II: Speaking Skills Monologue	
9.	Dialogue	
10.	Group Discussion	
11.	Effective Communication/ Mis- Communication	
12.	Interview	
13.	Public Speech	
14.	Discussion/ Tutorial	
15.	Unit III: Reading and Understanding Close Reading	
16.	Comprehension	
17.	Summary	
18.	Paraphrasing	
19.	Analysis & Interpretation	
20.	Translation(from Indian Language to English and vice-versa)	
21.	Discussion/ Tutorial	
22.	Unit IV: Writing Skills:	

	Documenting	
23	Report Writing	
24	Making Notes	
25	Letter Writing	
26	Discussion/ Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan (Session: June 2020 to Dec, 2021)

Course: 10200

Class/Semester: B.A Ist Semester (English Honours)

Name of the Paper: C1: Indian Classical Literature

Units Assigned: II & IV

Marks Assigned: 40

Class	Topic/ Unit	Remarks
1.	Unit II: Selections from Epic Sanskrit Literature Vyasa, The Dicing' An outline of the text	
2.	Outline of text continues	
3.	Main text – The Dicing started	
4.	Continued...	
5.	Continued...	
6.	Continued...	
7.	Continued...	
8.	Continued...	
9.	Continued...	
10.	Continued...	
11.	Continued...	
12.	Continued...	
13.	Continued...	
14.	Continued...	
15.	Continued...	
16.	Continued...	

17.	Significance of the Dicing episode in relation to the main plot of the Mahabharata	
18.	Significance of Draupadi's Questions in the Sava Parva	
19.	Character analysis	
20.	Topic: The Sequel to Dicing	
21	Continued...	
22	Continued...	
23	Continued...	
24	Continued...	
25	Continued...	
26	Continued...	
27	Continued...	
28	Continued...	
29	Continued...	
30	Continued...	
31	Continued...	
32	Implication of the plot and its relation to the main plot	
33	Analysis of the women characters	
34	Discussion/ tutorial	
35	Unit IV: Classical Assamese Drama A Historical background of Assamese drama	
36	Topic- The text- Shankaradeva's Parijata Harana started	
37	The text continued...	
38	Continued...	
39	Continued...	
40	Continued...	
41	Continued...	
42	Continued...	
43	Continued...	
44	Continued...	
45	Continued...	
46	Continued...	
47	Continued...	
48	Continued...	
49	Continued...	
50	Continued...	
51	Continued...	
52	Central themes discussed	
53	Ankiya Nat and the Medieval Indian Theatre	
54	Character sketch of main characters	
55	Discussion/tutorials	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Sanjoy Das

Course –20200

Class/Semester- 2nd Semester (English Honours)

Name of the Paper- Course 4: British Poetry And Drama: 14th to 17th Centuries

Units Assigned- Unit IV

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Unit IV: Shakespeare's Twelfth Night	
2.	Introduction to Drama & Shakespeare's greatness as a Dramatist	
3.	Elizabethan Theatre & Shakespeare	
4.	Twelfth Night (TN) Act I Sc1 & 2	
5.	Act I Sc 3 & 4	
6.	Act I Sc 5	
7.	Act I Sc 6 & 7	
8.	Discussion / Tutorial	
9.	TN Act 2 Sc1	
10.	Act 2 Sc 2 & 3	
11.	Act 2 Sc 4 & 5	
12.	Act 2 Sc 4	
13.	Discussion/ Tutorial	
14.	TN Act 3 Sc 1 & 2	
15.	Act 3 Sc 3 & 4	
16.	Act 3 Sc 4	
17.	Act 3 Sc 5 & 6	
18.	Discussion/ Tutorial	
19.	TN Act 4 Sc 1	
20.	Act 4 Sc 2 & 3	
21.	Discussion/ Tutorial	
22.	TN Act 5 Sc 1	
23.	Act 5 Sc 2 & 3	
24.	Act 5 Sc 4 & 5	
25.	Act 5 Sc 6 & 7	
26.	Act 5 Sc 8 & 9	
27.	Theme of mistaken identities and disguises	
28.	Character analysis	
29.	Discussion/ tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Sanjoy Das

Course – 30100

Class/Semester- 3rd Semester (English Honours)

Name of the Paper- C5: American Literature

Units Assigned- Unit IV

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Unit II : Poetry Anne Bradstreet's The Prologue Life and background of Bradstreet	
2.	The Prologue started	
3.	Continued...	
4.	Continued...	
5.	Continued...	
6.	Continued...	
7.	Continued...	
8.	The Prologue as a confessional poem	
9.	Central themes of the poem	
10.	Critical appreciation of the poem	
11.	Discussion/ tutorial	
12.	Walt Whitman's O Captain, My Captain Introduction to the poet	
13.	The poem 'O Captain, My Captain' started	
14.	Continued...	
15.	Central themes of the poem	
16.	Critical appreciation of the poem	
17.	Critical appreciation of the poem	
18.	Discussion/tutorial	
19.	The poem ' Passage to India' (lines 1-68) started	
20.	Continued...	
21.	Continued...	
22.	Themes and stylistic features of the poem	
23.	Critical appreciation of the poem	
24.	Robert Frost's Mending Wall	

	Introduction to the poet	
25	The poem 'Mending Wall' started	
26	Continued...	
27	Continued...	
28	Form and style of the poem	
29	Major themes of the poem	
30	Critical appreciation of the poem	
31	Discussion/tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Sanjoy Das

Course – 30200

Class/Semester- 3rd Semester (English Honours)

Name of the Paper- C6: Popular Literature

Units Assigned-Unit I

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Unit I: Children's Literature Highlighted Children's literature and its features	
2.	Background of the writer Lewis Carroll	
3.	The text- Through the Looking Glass started Chapter 1	
4.	Chapter 2	
5.	Chapter 3 & 4	
6.	Chapter 5 & 6	
7.	Chapter 6 & 7	
8.	Chapter 7 & 8	
9.	Chapter 9 & 10	
10.	Chapter 11 & 12	
11.	Logic and language in the text	

12.	Analysis of the characters	
13.	Themes, motifs and symbols	
14.	Detailing on the laws of the chess game in the text	
15.	Discussion/ tutorials	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Sanjoy Das

Course –50200

Class/Semester- 5th Semester (English Honours)

Name of the Paper-C12: British Literature: The Early 20th Century

Unit Assigned- III

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Unit III : Stream of Consciousness novel Virginia Woolf's Mrs Dalloway Stream of consciousness defined	
2.	Detailed Summary of Mrs Dalloway	
3.	Continued...	
4.	Continued...	
5.	Continued...	
6.	Continued...	
7.	Continued...	
8.	Continued...	
9.	Continued...	
10.	Continued...	
11.	Continued...	
12.	Continued...	
13.	Continued...	
14.	Continued...	
15.	Continued...	
16.	Narrative technique in the novel	

17.	Major characters analysed	
18.	Major characters analysed	
19.	Major themes discussed	
20.	Major themes discussed	
21.	Theme of sanity and insanity in the novel	
22.	Discussion/ tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Sanjoy Das

Course – 501

Class/Semester- 5th Semester (Non- C.B. C. S)

Name of the Paper-Reading Drama

Unit Assigned-Unit IV

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Beckett's Waiting for Godot Introduction to the dramatist	
2.	Absurd drama defined and its features discussed	
3.	Detailed study of Act I of the play	
4.	Act I	
5.	Act I	
6.	Act I	
7.	Act I	
8.	Act I	
9.	Act I	
10.	Act II	
11.	Act II	
12.	Act II	

13.	Act II	
14.	Act II	
15.	Act II	
16.	Waiting for Godot as an absurd play	
17.	Art of characterization	
18.	Major themes of the play discussed	
19.	Parallel in the play	
20.	Existentialist elements in the play	
21.	Discussion / Tutorial	
22.	Discussion / Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan (Session June- December 2021)

Name of the Teacher- Sanjoy Das

Course: 502

Class/Semester- B.A. 5th Semester (English Major, Non- C.B.C.S)

Name of the Paper- Criticism I

Units Assigned- Unit – III

Marks Assigned- 20

Class	Topic/ Unit	Remark
1	Sidney's An Apology for Poetry Introduction to the author	
2	Detailed study of the text	
3	Continued...	
4	Continued...	
5	Continued...	
6	Continued...	
7	Continued...	
8	Continued...	
9	Continued...	
10	Continued...	

11	Nature and function of poetry	
12	Objections to poetry in the text	
13	Sidney's views on the three unities	
14	Poetry and its superiority over others	
15	Views on tragic-comedy	
16	Discussion/ Tutorial	
17	Discussion/ Tutorial	
18	Discussion/ Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan (Session June- December 2021)

Name of the Teacher- Sanjoy Das

Course – 603

Class/Semester- B.A. 6th Semester (English Major, Non-C.B.C.S)

Name of the Paper- Criticism II

Units Assigned- Unit I & IV

Marks Assigned- 20

Class	Topic/ Unit	Remark
1	Unit I: Wordsworth's Preface to Lyrical Ballads Introduction to the author as a critic	
2	Literary criticism in the Age of Wordsworth	
3	The text -Preface to the Lyrical Ballads started	
4	Continued...	
5	Continued...	
6	Continued...	
7	Continued...	
8	Continued...	
9	Continued...	
10	Chief characteristics of the text	
11	Wordsworth's views on 18 th century poetry	
12	Themes of poetry	
13	Theory of poetic diction and language	
14	Function of poetry	
15	Discussion/ tutorials	

16	Discussion/ tutorials	
17	Discussion/ tutorials	
18	T.S. Eliot's Tradition and the Individual Talent Introduction to Eliot as critic	
19	Detailed study of Part I	
20	Continued...	
21	Continued...	
22	Continued	
23	Detailed study of Part II	
24	Continued...	
25	Continued...	
26	Detailed study of Part III	
27	Continued...	
28	Relation between tradition and individual talent	
29	Historical sense in the text	
30	Theory of depersonalization	
31	Discussion/ tutorials	
32	Discussion/ tutorials	
33	Discussion/ tutorials	

DIGBOI COLLEGE, DIGBOI

Course Plan (Session June- December 2021)

Name of the Teacher- Sanjoy Das

Course – 604

Class/Semester- B.A. 6th Semester (English Major, Non-C.B.C.S)

Name of the Paper- Introduction to Linguistics and Phonetics

Units Assigned- Unit I & III

Marks Assigned- 50

Class	Topic/ Unit	Remark
1	Unit I Properties of language	
2	Communicative vs. Informative	
3	Language system: Langue and Parole	
4	Langue and Parole discussed in detail	
5	Langue and Parole discussed in detail	
6	Sound and meaning	
7	Sound and meaning	
8	Language varieties	
9	Language varieties (Standard language, Non-standard language)	
10	Language varieties (Standard language, Non-standard language)	
11	Language varieties: according to use and region (register, pidgin, Creole)	
12	Language varieties: according to use and region(register, pidgin, Creole)	
13	Language change	
14	Language change	
15	Language change	
16	Discussion/ tutorials	
17	Discussion/ tutorials	
18	Discussion/ tutorials	
19	Discussion/ tutorials	
20	Unit III: Introduction: the use of spoken English in India Received Pronunciation (British)	
21	Standard English and its traits	
22	Indian English and other varieties	
23	The speech mechanism explained	
24	Organs of speech- respiratory system	
25	Phonatory system	
26	Phonatory system	
27	Articulatory system	
28	Articulatory system	
29	Description and classification of speech sounds	
30	Continued...	
31	Continued...	
32	Continued...	
33	Continued...	
34	Description and classification of vowels	
35	Continued...	
36	Continued...	
37	Description and classification of consonants	
38	Continued...	
39	Phoneme and syllable	
40	Discussion/ tutorials	
41	Discussion/ tutorials	

Digboi College: Department of English**Course Plan****(Oct, 2021-Jan, 2022)**

Name of the Teacher: **Dr. Pabitra Bharali**
Programme: **English Honours**
Class/Semester-: **FIRST**
Name of the Course/Paper: **C1: Indian Classical Literature**
Units Assigned: **I : Kalidasa - *Abhijnana Sakuntalam***
Marks Assigned: **20**

Class	Topic/ Unit	Remarks
1.	a. Introduction to literature b. Introduction to Indian Classical drama c. Briefing on Rasa theory.	Objective is to familiarize the learners with the diverse modes of literature and inspire in them a critical insight.
2.	a. A synopsis on the story of Abhijnana Sakuntalam as told in the Mahabharata b. Introduction to the major characters in Abhijnana Sakuntalam. c. Introduction to major Indian gods and goddesses	Groundwork for the play
3.	Unit-I:Abhijnana Sakuntalam: Act I	Analysis and appreciation
4.	Unit-I:Abhijnana Sakuntalam: Act I	Analysis and appreciation
5.	Unit-I:Abhijnana Sakuntalam: Act II	Analysis and appreciation
6.	Unit-I:Abhijnana Sakuntalam: Act II	Analysis and appreciation
7.	Unit-I:Abhijnana Sakuntalam: Act III	Analysis and appreciation
8.	Unit-I:Abhijnana Sakuntalam: Act III	Analysis and appreciation
9.	Unit-I:Abhijnana Sakuntalam: Act IV	Analysis and appreciation
10.	Unit-I:Abhijnana Sakuntalam: Act IV	Analysis and appreciation
11.	Unit-I:Abhijnana Sakuntalam: Act V	Analysis and appreciation
12.	Unit-I:Abhijnana Sakuntalam: Act V	Analysis and appreciation
13.	Unit-I:Abhijnana Sakuntalam: Act VI	Analysis and appreciation
14.	Unit-I:Abhijnana Sakuntalam: Act VI	Analysis and appreciation
15.	Unit-I:Abhijnana Sakuntalam: Act VII	Analysis and appreciation
16.	Unit-I:Abhijnana Sakuntalam: Act VII	Analysis and appreciation
17.	Rasas in Abhijnana Sakuntalam	Critical analysis
18.	Characterization in Abhijnana Sakuntalam	Critical analysis
19.	Interactions	Problem solving
20.	Interactions	Problem solving



Signature of faculty

Digboi College: Department of English**Course Plan****(Oct, 2021-Jan, 2022)**

Name of the Teacher: **Dr. Pabitra Bharali**
Programme: English Honours
Class/Semester: **Third**
Name of the Course/Paper: **C7: British Poetry and Drama: 17th and 18th Centuries**
Units Assigned: **II (John Webster: The Duchess of Malfi) & III (Aphra Behn: The Rover)**
Marks Assigned: **40**

Class	Topic/ Unit	Remarks
1.	a. Introduction to European Drama b. structure of tragedy and features of revenge tragedy	Familiarizing the learners the dramatic modes, structures and features
2.	a. Introducing the English Drama and dramatists. b. Introduction to the major characters	Groundwork for the play
3.	Unit-II: The Duchess of Malfi: Act I: Scene i	Analysis and appreciation
4.	Unit-II: The Duchess of Malfi: Act I: Scene i	Analysis and appreciation
5.	Unit-II: The Duchess of Malfi: Act II: Scene i	Analysis and appreciation
6.	Unit-II: The Duchess of Malfi: Act II: Scene i	Analysis and appreciation
7.	Unit-II: The Duchess of Malfi: Act II: Scene ii & iii	Analysis and appreciation
8.	Unit-II: The Duchess of Malfi: Act II: Scene iv & v	Analysis and appreciation
9.	Unit-II: The Duchess of Malfi: Act III: Scene I & ii	Analysis and appreciation
10.	Unit-II: The Duchess of Malfi: Act III: Scene ii	Analysis and appreciation
11.	Unit-II: The Duchess of Malfi: Act III: Scene iii-v	Analysis and appreciation
12.	Unit-II: The Duchess of Malfi: Act IV: Scene I	Analysis and appreciation
13.	Unit-II: The Duchess of Malfi: Act IV: Scene II	Analysis and appreciation
14.	Unit-II: The Duchess of Malfi: a. summary up to Act IV b. Act V: Scene I	Analysis and appreciation
15.	Unit-II: The Duchess of Malfi: Act V: Scene ii	Analysis and appreciation
16.	Unit-II: The Duchess of Malfi: Act V: Scene iii-v	Analysis and appreciation
17.	The Duchess of Malfi as a revenge tragedy	Critical analysis
18.	Characterization in The Duchess of Malfi	Critical analysis
19.	Interactions	Problem solving
20.	Unit-III: Introduction to English Restoration period and restoration literature/drama	Groundwork for the play
21.	Unit-III: The Rover Act I Scene i	Analysis and appreciation
22.	Unit-III: The Rover Act I Scene ii	Analysis and appreciation
23.	Unit-III: The Rover Act II Scene i	Analysis and appreciation
24.	Unit-III: The Rover Act II Scene ii	Analysis and appreciation
25.	Unit-III: The Rover Act III Scene i	Analysis and appreciation
26.	Unit-III: The Rover Act III Scene ii-vi	Analysis and appreciation
27.	Unit-III: The Rover Act IV Scene i-v	Analysis and appreciation
28.	The Rover as a restoration comedy	Critical analysis
29.	Interactions	Problem solving
30.	Interactions	Problem solving



Signature of faculty

Digboi College: Department of English

Course Plan

(Oct, 2021-Jan, 2022)

Name of the Teacher: **Dr. Pabitra Bharali**
Programme: English Honours
Class/Semester: **Fifth**
Name of the Course/Paper: **C12: British Literature: The early 20th century**
Units Assigned: **IV: Modernist Poetry: (part: T.S. Eliot)**
Marks Assigned: **10**

Class	Topic/ Unit	Remarks
1.	a. Introducing Modernism (ref to avant-gardes in poetry, drama, fiction, theory) .	Simplifying concepts of modernism in order to prepare the learners for studying modern literature
2.	The Love Song of J. Alfred Prufrock	Analysis and appreciation
3.	The Love Song of J. Alfred Prufrock	Analysis and appreciation
4.	The Love Song of J. Alfred Prufrock	Analysis and appreciation
5.	The Hollow Men	Analysis and appreciation
6.	The Hollow Men	Analysis and appreciation
7.		
8.		
9.		
10.		



Signature of faculty

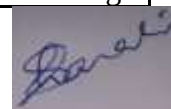
Digboi College: Department of English

Course Plan

(Oct, 2021-Jan, 2022)

Name of the Teacher: **Dr. Pabitra Bharali**
Programme: English Honours
Class/Semester: **Fifth**
Name of the Course/Paper: **DSE 3: Literary Criticism**
Units Assigned: **III & IV**
Marks Assigned: **40**

Class	Topic/ Unit	Remarks
1.	Overview of Literary Criticism	Ground work
2.	Unit III: Principles of Literary Criticism Ch-1	Analysis
3.	Unit III: Principles of Literary Criticism Ch-1	Analysis
4.	Unit III: Principles of Literary Criticism Ch-2	Analysis
5.	Unit III: Principles of Literary Criticism Ch-2	Analysis
6.	Unit III: Principles of Literary Criticism Ch-34	Analysis
7.	Unit III: Principles of Literary Criticism Ch-34	Analysis
8.	Unit III: Principles of Literary Criticism -1,2,34	Summing up
9.	Unit III Practical Criticism – the Ten Difficulties	Ground work
10.	Unit III: Practical Criticism- Four Kinds of Meaning	Analysis
11.	Unit III: Practical Criticism- Four Kinds of Meaning	Analysis
12.	Unit III: Practical Criticism- Four Kinds of Meaning	Analysis
13.	Unit III: Practical Criticism- Four Kinds of Meaning	Analysis
14.	Unit III: Practical Criticism- Four Kinds of Meaning	Analysis
15.	Unit III: Practical Criticism- Four Kinds of Meaning	Analysis
16.	Unit IV: The Heresy of Paraphrase	Analysis
17.	Unit IV: The Heresy of Paraphrase	Analysis
18.	Unit IV: The Heresy of Paraphrase	Analysis
19.	Unit IV: The Heresy of Paraphrase	Analysis
20.	Unit IV: The Heresy of Paraphrase	Analysis
21.	Unit IV: Second Wave Feminism-	Analysis
22.	Unit IV: Second Wave Feminism	Analysis
23.	Unit IV: Second Wave Feminism	Analysis
24.	Unit IV: Second Wave Feminism	Analysis
25.	Unit IV: Third World Feminism	Analysis
26.	Unit IV: Third World Feminism	Analysis
27.	Unit IV: Third World Feminism	Analysis
28.	Unit IV: Third World Feminism	Analysis
29.	Interactions	Doubt clearing
30.	Interactions	Problem solving
31.	Interactions	Problem solving
32.	Interactions	Problem solving



Signature of faculty

Digboi College: Department of English

Course Plan

(Oct, 2021-Jan, 2022)

Name of the Teacher: **Dr. Pabitra Bharali**
Programme: **Honours (BA: Gr-A)**
Class/Semester-: **FIRST**
Name of the Course/Paper: **AECC 1: English Communication**
Units Assigned: **I, II, III, IV**
Marks Assigned: **40**

Class	Topic/ Unit	Remarks
1.	Unit I: Communication Theory and types: What is communication? Classification.	Conceptualization
2.	Unit I: Communication Theory and types: Verbal and Non-verbal; formal and informal	Analysis and demonstration
3.	Unit I: Communication Theory and types: Processes, components	Analysis
4.	Unit I: Communication Theory and types: Model - SMCR	Analysis
5.	Unit I: Communication Theory and types: Modes- vertical, horizontal, diagonal	Analysis
6.	Unit I: Communication Theory and types: levels	Analysis
7.	Unit I: Communication Theory and types: Barriers	Analysis
8.	Unit II: Speaking Skills: Monologue, dialogue	Concept and practice
9.	Unit II: Speaking Skills: Effective Communication	Analysis
10.	Unit II: Speaking Skills: GD	Concept and practice
11.	Unit II: Speaking Skills: Interview	Concept and practice
12.	Unit II: Speaking Skills: Public speech	Concept and practice
13.	Unit III: Reading and understanding: Close reading, comprehension	Concept and practice
14.	Unit III: Reading and understanding: Summary	Concept and practice
15.	Unit III: Reading and understanding: Paraphrasing	Concept and practice
16.	Unit III: Reading and understanding: Analysis and interpretation	Concept and practice
17.	Unit IV: Writing Skills: Documenting, Making Notes	Concept and practice
18.	Unit IV: Writing Skills: Report writing	Concept and practice
19.	Unit IV: Writing Skills: Letter writing	Model letter
20.	Unit IV: Writing Skills: Letter writing	Practice
21	Revision	Refreshing the concepts
22	Interaction	Problem solving



Signature of faculty

Digboi College: Department of English

Course Plan

(Oct, 2021-Jan, 2022)

Name of the Teacher: **Dr. Pabitra Bharali**
Programme: **Honours (BSc)**
Class/Semester-: **FIRST**
Name of the Course/Paper: **AECC 2: Alternative English**
Units Assigned: **I & II**
Marks Assigned: **40**

Class	Topic/ Unit	Remarks
1.	Introduction to Literature; characteristics of short story	conceptualization
2.	Gandhi: Doctrine of the Sword	Analysis and critical thinking
3.	Gandhi: Doctrine of the Sword	Analysis and critical thinking
4.	Gandhi: Doctrine of the Sword	Analysis and critical thinking
5.	Ambedkar: Prospects of Democracy in India	Analysis and critical thinking
6.	Ambedkar: Prospects of Democracy in India	Analysis and critical thinking
7.	Ambedkar: Prospects of Democracy in India	Analysis and critical thinking
8.	G.B Shaw: Spoken English and Broken English	Analysis and critical thinking
9.	G.B Shaw: Spoken English and Broken English	Analysis and critical thinking
10.	G.B Shaw: Spoken English and Broken English	Analysis and critical thinking
11.	Tolstoy: How Much Land does a man need?	Analysis and appreciation
12.	Tolstoy: How Much Land does a man need?	Analysis and appreciation
13.	R.K.Narayan: An Astrologer's Day	Analysis and appreciation
14.	R.K.Narayan: An Astrologer's Day	Analysis and appreciation
15.	S.H. Manto: The Dog of Tithwal	Analysis and appreciation
16.	S.H. Manto: The Dog of Tithwal	Analysis and appreciation
17.	Interactions	Problem solving
18.	Interactions	Problem solving
19.	Interactions	Problem solving
20.	Interactions	Problem solving



Signature of faculty

DIGBOI COLLEGE, DIGBOI

Course Plan(Session June- December 2021)

Department Of

Name of the Teacher- Dr.Chandana Chetia

Course –10310

Class/Semester- B.A. 1st Semester

Name of the Paper- AECC 1: English Communication

Units Assigned- Unit – I, II, III & IV

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Unit I: Communication: Theory & Types Topic: What is Communication?	
2.	The Communication Process	
3.	Verbal & Non –Verbal Communication	
4.	Effective communication: Barriers, Solutions	
5.	Intra Personal, Inter Personal & Group Communication	
6.	Different theories of Communication	
7.	Discussion/ Tutorial	
8.	Unit II: Speaking Skills Topic: Monologue	
9.	Dialogue	
10.	Group Discussion	
11.	Effective Communication/ Mis- Communication	
12.	Interview	
13.	Public Speech	
14.	Discussion/ Tutorial	
15.	Unit III: Reading and Understanding Topic: Close Reading	
16.	Comprehension	
17.	Summary	
18.	Paraphrasing	
19.	Analysis & Interpretation	
20.	Translation(from Indian Language to English and vice-versa)	
21	Discussion/ Tutorial	
22	Unit IV: Writing Skills: Topic: Documenting	

23	Report Writing	
24	Making Notes	
25	Letter Writing	
26	Discussion/ Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan (Session: June 2020 to Dec, 2021)

Course: 10200

Class/Semester: B.A Ist Semester (English Honours)

Name of the Paper: C2: European Classical Literature

Unit Assigned: I & IV

Marks Assigned: 30

Class	Topic/ Unit	Remarks
1.	Unit I : Classical Greek Epic, Homer : The Illiad An Outline of The Illiad	
2.	The Authenticity and Survival of Homer's Text	
3.	The Cental Theme of The Illiad	
4.	Main Characters & Gods & Goddesses in The Illiad	
5.	Book I of The Illiad	
6.	Book 2 of The Illiad	
7.	Book 3 of The Illiad	
8.	Book 4 & 5 of The Illiad	
9.	Book 6 of The Illiad	
10.	Book 7 & 8 of The Illiad	
11.	Book 9 &10 of The Illiad	
12.	Book 11 &12 of The Illiad	
13.	Book 13 & 14 of The Illiad	
14.	Book 15 & 16 of The Illiad	
15.	Book 17& 18 of The Illiad	
16.	Book !9 & 20 of The Illiad	
17.	Book 21 & 22 of The Illiad	
18.	Book 23 & 24 of The illiad	

Course Plan

Name of the Teacher- Dr. Chandana Chetia

Course –20200

Class/Semester- 2nd Semester (English Honours)

Name of the Paper- Course 4: British Poetry And Drama : 14th to 17th Centuries

Units Assigned- Unit III

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Unit III: Shakespeare's Macbeth	
2.	Introduction to Drama & Shakespeares greatness as a Dramatist	
3.	Elizabethan Theatre & Shakespeare	
4.	Macbeth Act I Sc1 & 2	
5.	Act I Sc 3 & 4	
6.	Act I Sc 5	
7.	Act I Sc 6 & 7	
8.	Discussion / Tutorial	
9.	Macbeth Act 2 Sc1	
10.	Act 2 Sc 2 & 3	
11.	Act 2 Sc 4 & 5	
12.	Act 2 Sc 4	
13.	Discussion/ Tutorial	
14.	Macbeth Act 3 Sc 1 & 2	
15.	Act 3 Sc 3 & 4	
16.	Act 3 Sc 4	
17.	Act 3 Sc 5 & 6	
18.	Discussion/ Tutorial	
19.	Macbeth Act 4 Sc 1	
20.	Act 4 Sc 2 & 3	
21.	Discussion/ Tutorial	
22.	Macbeth Act 5 Sc 1	
23.	Act 5 Sc 2 & 3	
24.	Act 5 Sc 4 & 5	
25.	Act 5 Sc 6 & 7	
26.	Act 5 Sc 8 & 9	
27.	Theme of Ambition in Macbeth	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Chandana chetia

Course – 30100

Class/Semester- 3rd Semester (English Honours)

Name of the Paper- C5 : American Literature

Units Assigned- Unit I & II

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Unit I :Drama The Glass Menagerie Life & Age of Tennessee Williams	
2.	The Glass Menagerie as an Autobiographical Play	
3.	Scene 1 of The Glass Menagerie	
4.	Scene 2	
5.	Scene 3	
6.	Scene 4	
7.	Scene 5	
8.	Scene 6	
9.	Scene 7	
10.	Illusion &Reality in The Glass Menagerie	
11.	Symbolism in The Glass Menagerie	
12.	The Glass Menagerie as a Memory Play	
13.	Discussion / Tutorial	
14.	Unit II: African American Novel Toni Morrison: Beloved Emergence of African American Literature & Toni Morrison	
15.	Black Women Novelist: Development , flowering & Fruition of a Tradition	
16.	Beloved as a New- Slave Narrative	
17.	Chapter 1& 2 of Beloved	
18.	Chapter 3 & 4 of Beloved	
19.	Chapter 4 & 6 of Beloved	

20.	Chapter 7&8 of Beloved	
21	Chapter 9 & 10 of Beloved	
22	Chapter 11 , 12 & 13 of Beloved	
23	Summarised 14, 15 16 of Beloved	
24	Summarised 17 18 19, 20 of Beloved	
25	Summarised 21, 22 23 24 of Beloved	
26	Summarised 25, 26 27 28 Of Beloved	
27	Character Analysis	
28	Motherhood in Beloved	
29	The Mystery Streak in Beloved	
30	Discussion/ Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Chandana Chetia

Course –

Class/Semester- 40200

Name of the Paper- 4th Semester (English Honours)

Units Assigned-Unit III & IV

Marks Assigned- 30

Class	Topic/ Unit	Remarks
1.	Unit III: High Romantic poetry Socio Cultural Background of Romantic Age	
2.	Features of Romanticism, Meaning of Ode	
3.	Ode to Autumn	
4.	Contd Ode to Autumn & completed	
5.	Ode to a Nightingale	
6.	Ode to a Nightingale	
7.	On First Looking Into Chapman's Homer	
8.	Introduction to P. b Shelley	
9.	1 st 3 Stanzas of Ode to the West Wind	

10.	Ode to the West Wind	
11.	Hymn to Intellectual Beauty	
12.	Discussion / Tutorial	
13.	Frankenstein : The Background	
14.	The Romantic Movement and Frankenstein	
15.	Chapterwise analysis of the novel	
16.	Contd	
17.	Contd	
18.	Contd	
19.	Contd	
20.	Contd	
21.	Contd	
22.	Contd	
23.	Contd	
24.	Character Analysis	
25.	Motifs & Symbols in Frankenstein	
26.	Discussion/ Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher-Dr. Chandana Chetia

Course –50200

Class/Semester- 5th Semester (English Honours)

Name of the Paper-C12: British Literature : The Early 20th Century

Units Assigned- I , II & IV

Marks Assigned- 50

Class	Topic/ Unit	Remarks
1.	Unit I : Joseph Conrad: Heart of Darkness Various Aspects of Conrad as a Novelist	
2.	Detailed Summary of Heart of Darkness Part I	

3	Detailed Summary of Part II	
4.	Detailed Summary of Part III	
5.	Major themes in Heart of Darkness	
6.	Critical Analysis of Major Characters	
7.	Symbolical Significance of the Novel	
8.	Unit II: Lawrence's : Sons & Lovers The Age of D.H Lawrence	
9.	The Essentials of Lawrence's Philosophy	
10.	Chapterwise Analysis of the novel	
11.	Contd	
12.	Contd	
13.	Contd	
14.	Contd	
15.	Contd	
16.	Oedipus Complex in Sons & Lovers	
17.	Paul- Miriam, Paul-Clara relationship	
18.	Use of Symbols in the novel , Autobiographical elements in the novel	
19.	Discussion /Tutorial	
20.	Unit IV: Modernist Poetry W. B Yeats: Leda & the Swan	
21	W.B Yeats: No Second Troy	
22	W. B Yeats: Sailing to Byzantium	
23	Contd	
24	Yeats' The Second Coming	
25	contd	
25	Contd	
26	Discussion / Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher-Dr. Chandana Chetia

Course – 502

Class/Semester- 5th Semester (Non- C.B. C. S)

Name of the Paper-Reading Drama

Units Assigned-Unit III

Marks Assigned- 20

Class	Topic/ Unit	Remarks
1.	Bernard Shaw's : Pygmalion Essence of Shaw's Plays/ Main Trends : Shaw's Contribution	
2.	Detailed study of Act I	
3	Act II	
4.	Act II	
5.	Act III	
6.	Act III	
7.	Act IV	
8.	Act V	
9.	Act V	
10.	Pygmalion As a Problem Play	
11.	Title of the Play	
12.	Theme of Education	
13.	Character Analysis	
14.	Raja Rao's : Kanthapura Raja Rao: A Philosophical Novelist	
15.	Gandhian Ideology in Kanthapura	
16.	Summary of Kanthapura	
17.	Characterisation	
18.	Kanthapura- as a Sthalapurana	
19.	Society in Kanthapura	
20.	The Political Element in Kanthapura	
21	Discussion / Tutorial	
22	Discussion / Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan(Session June- December 2021)

Department Of

Name of the Teacher- Dr.Chandana Chetia

Course : 602

Class/Semester- B.A. 6thSemester(English major, Non- C.B.C.S)

Name of the Paper- Literature of the U.S.A

Units Assigned- Unit – I & IV

Marks Assigned- 30

Class	Topic/ Unit	Remark
1	Henry David Thoreau as a Transcendentalist	
2	Whitman as a Spokesman of America	
3	Influence of Puritanism in Early American Literature	
4	Features of RenaissanceLiteraturein the 19 th Century	
5	Eugene O’ Neill as a Dramatist	
6	Eugene O’ Neill: Realism, Expressionism	
7	Desire Under the Elms : Title	
8	Pat I Sc I of Desire Under the Elms	
9	Pat I Sc II of Desire Under the Elms	
10	Pat I Sc III of the play	
11	Part I Sc IV of the play Desire Under the Elms Pat II	
12	Par II Sc III of the play	
13	Sc II & IV of Part II of the Play	
14	Part III Sc I &II of the Play POart III, Sc III& IV	
15	Desire Under the Elms as a tragedy & Psychological Realism in the play	
16	Inheritance & Infanticide in the	

	play	
17	Discussion/ Tutorial	
18	Discussion/ Tutorial	
19	Discussion	

DIGBOI COLLEGE, DIGBOI

Course Plan(Session June- December 2021)

Department Of

Name of the Teacher- Dr.Chandana Chetia

Course – 603

Class/Semester- B.A. 6th Semester(English Major, Non-C.B.C.S)

Name of the Paper-Postcolonial Literature

Units Assigned- Unit – Unit IV

Marks Assigned- 20

Class	Topic/ Unit	Remark
1	Unit IV: J.M. Coetzee: Disgrace Background of the Novel	
2	Apartheid in South Africa Disintegration of White Supremacy After the end of Apartheid	
3	Animal as a central ecological & ethical feature in Disgrace	
4	Power , Sex and Subjugation in Disgrace	
5	Paradoxical truth in Disgrace	
6	Chapterwise Detailed study of the Novel	
7	Detailed Study of the Novel	

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Department of Geography

DIGBOI COLLEGE, DIGBOI

Course Plan Odd Semester (2020-21)

Name of the Teacher-Dr. Sangeeta Boruah Saikia

Course –Honours / Generic –Generic

Class/Semester-1st Semester (CBCS)

Name of the Paper-Disaster Management

Units Assigned-1 and 2

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Concept and Definitions of Disasters	
2.	Types of Disasters	
3.	Present scenario of natural Disaster in the World	
4.	Present scenario of natural Disaster in India	
5.	Causes of Natural Disaster	
6.	Impact of Natural Disaster	
7.	Concept and Definition of Hazards	
8.	Characteristics and mode of Hazards	
9.	Types of Hazards	
10.	Concept of Risk	
11.	Meaning and Classification of Vulnerability	
12.	Flood Disaster: Types of Flood	
13.	Causes of Flood	
14.	Impact of Flood	
15.	Distribution of Flood	
16.	Drought Concept: Types of Drought	
17.	Causes of Drought	
18.	Impact of Drought	
19.	Distribution of Drought	
20.	Landslide Concept: Types of Landslide	
21.	Causes of Landslide	
22.	Impact of Landslide	
23.	Distribution of Landslide	
24.	Mapping of flood prone area	
25.	Mapping of Drought prone area	
26.	Mapping of Landslide prone area	

DIGBOI COLLEGE, DIGBOI

Course Plan Odd Semester (2020-21)

Name of the Teacher-Dr. Sangeeta Boruah Saikia

Course –Honours / Generic –Generic

Class/Semester-3rd Semester (CBCS)

Name of the Paper-Climate Change : Vulnerability and Adaptation

Units Assigned-1 and 2

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Concept of Weather and Climate	
2.	What is Climate Change	
3.	Reconstructing past Climate	
4.	Earth Climatic History	
5.	Causes of Climate Change	
6.	Evidence of Climate Change	
7.	Consequences' of Climate Change	
8.	Concept and Processes of Green House	
9.	Green House Gases	
10.	Natural Causes of Global Warming	
11.	Manmade Causes of Global Warming	
12.	Consequences of Global Warming	
13.	Ways to prevent Global Warming	
14.	What is IPCC	
15.	Activities of IPCC	
16.	Plans and Programme of IPCC	
17.	Concept and types of Vulnerability	
18.	Climate Change and Vulnerability	
19.	Physical Vulnerability	
20.	Factors affecting Physical Vulnerability	
21.	Social Vulnerability	
22.	Factors affecting Social Vulnerability	
23.	Economic Vulnerability	
24.	Factors affecting Economic Vulnerability	
25.		

Course Plan Odd Semester (2020-21)

Name of the Teacher-Dr. Sangeeta Boruah Saikia

Course –Honours / Generic – Pass Course

Class/Semester-5th Semester (Non CBCS)

Name of the Paper-Economic Geography

Units Assigned- Unit-2

Marks Assigned- 24 Theory 16 Practical (Total 40 marks)

Class	Topic/ Unit	Remarks
1.	Classification of Industry	
2.	Iron and Steel Industry	
3.	Locational Factors of Iron and Steel Industry	
4.	Distribution of Iron and Steel Industry	
5.	Ruhr basin steel centres of West Germany	
6.	Iron and Steel Industry in Japan	
7.	Locational Factors of Cotton Textile Industry	
8.	Distribution of Cotton Textile Industry	
9.	Cotton Textile Industry in India	
10.	Cotton Textile Industry in U.K	
11.	Cotton Textile Industry in USA	
12.	Classification of Chemical Industry	
13.	Locational Factors of Chemical Industry	
14.	Chemical Industry in India	
15.	World Distribution of Rice	
16.	Practical-Pie Diagram	
17.	World Distribution of Wheat	
18.	Practical-Bar Diagram	
19.	Tea distribution in the World	
20.	Practical-Histogram	
21.	Tea in India	
22.	Practical-Frequency Curve	
23.	Coffee distribution in the World	
24.	Practical- Population distribution map of N.E. India	
25.	Coffee in Brazil	
26.	Practical-Population distribution map of India	
27.	Cotton Distribution in the World	
28.	Practical- Population Density map of N.E. India	
29.	Jute Distribution in the World	
30.	Practical- Population Density map of India	
31.	Rubber Cultivation in the World	
32.	Practical-Population literacy map of India	
33.	Rubber in S,E, Asia	
34.	Practical-Population literacy map of Assam	

Course Plan Even Semester (2020-21)

Name of the Teacher-Dr. Sangeeta Boruah Saikia

Course –Honours / Generic – GE-2

Class/Semester-2nd Semester (CBCS)

Name of the Paper-Regional Development

Units Assigned- 1 and 2

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Definition of Region	
2.	Types of Region	
3.	Concept of Planning	
4.	Planning Regions: Definition and Characteristics	
5.	Types of Planning Region	
6.	Need of Regional Planning	
7.	Principles of Regional Planning	
8.	Objectives of Regional Planning	
9.	Planning Process and Planning Regions	
10.	Evolution of Regional Planning	
11.	Formal Region	
12.	Functional Regional	
13.	Nodal Region	
14.	Planning Region and Regional Development	
15.	Karl Marx's Theory of Economic Development	
16.	Concept of Regional Imbalanced	
17.	Theory of Balanced Development	
18.	Regional Development in India	
19.	Theory of unbalanced Development	
20.	Causes of Regional Imbalance in India	
21.	Regional Disparities in India	
22.	Regional Imbalances and Economic Industries	
23.	Regional Disparities and Human Development	
24.	Problem of Functional Regiona	
25.		

DIGBOI COLLEGE, DIGBOI

Course Plan Even Semester (2020-21)

Name of the Teacher-Dr. Sangeeta Boruah Saikia

Course –Honours / Generic – GE-4

Class/Semester-4th Semester (CBCS)

Name of the Paper-Industrial Geography

Units Assigned- 1 and 2

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Concept and Nature of Industrial Geography	
2.	Scope of Industrial Geography	
3.	Types and Classification of Industries	
4.	Geographical Characteristics of Industries	
5.	Locational factors of Industries	
6.	Weber's Theory of Industrial Location	
7.	Small Scale Industry	
8.	Medium Scale Industry	
9.	Heavy Industry	
10.	Manufacturing Industries	
11.	Iron and Steel Industry	
12.	Processes of Iron and Steel Production	
13.	Location of Iron and Steel Industry	
14.	Early Localization and Early Growth	
15.	Distribution of Iron and Steel Industry	
16.	Iron and Steel Industry in India	
17.	Rural Based Industries	
18.	Locational factors of Rural based Industries	
19.	Characteristics of Rural Based Industries	
20.	Footloose Industry	
21.	Characteristics of Footloose Industries	
22.	Locational Factors of Footloose Industries	
23.	Problem of Footloose Industries	
24.	Some Examples of Footloose Industry in India	
25.		

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Course Plan Even Semester (2020-21)

Name of the Teacher-Dr. Sangeeta Boruah Saikia

Course –Honours / Pass Course

Class/Semester-6th Semester (Non CBCS)

Name of the Paper-Regional Geography of the World

Units Assigned- Unit 1 (Asia)

Marks Assigned- 24 Theory 16 Practical (Total 40 marks)

Class	Topic/ Unit	Remarks
1.	Physical features of Asia	
2.	Climatic Region of Asia	
3.	Factors affecting the climate of Asia	
4.	Climatic Characteristics of Asia	
5.	Soil of Asia	
6.	Natural Vegetation of Asia	
7.	Tea Cultivation in Asia	
8.	Cultivation of Rice in Asia	
9.	Rubber Plantation in Asia	
10.	Coffee Cultivation in Asia	
11.	Maize Cultivation in Asia	
12.	Sugar cultivation in Asia	
13.	Wheat Cultivation in Asia	
14.	Spatial Distribution of Population in S.E. Asia	
15.	Density of Population in Asia	
16.	Practical-International Boundaries of Neighboring Countries	
17.	Iron and Steel Industry in Asia	
18.	Practical-Mac Mohon line	
19.	Petroleum and Natural Gas in S,E, Asia	
20.	Mineral Resources of Asia	
21.	Practical- Demarcation of Red-Cliff line	
22.	Jute Cultivation of Bangladesh	
23.	Practical-International Boundary of India with Myanmar and Bhutan	
24.	Coal recourses of Asia	
25.	Practical-SAARC Countries	
26.	Cotton Textile Industry in Japan	
27.	Practical-Durand Line	
28.	Fishing Industry in Japan	
29.	Practical-Asia political Map	
30.	Manufacturing industry in Japan	

DIGBOI COLLEGE: DIGBOI

Course Plan

Name of the teacher- Narendra Kumar Das
Course- Honours/Generic- Generic
Class/Semester- 1st Semester (CBCS)
Name of the paper- Disaster Management (GE-01)
Units Assigned- 3,4,5
Marks Assigned- 40

CLASS	UNITS/TOPICS TAUGHT	REMARKS
1	Concept of Disasters in India	
2	Concept of Earthquake	
3	Causes and Impact of Earthquake	
4	Distribution of Earthquake Zones in India	
5	Do's and Do not's During and Post Earthquake Disaster	
6	Mapping of Earthquake Zones in India	
7	Concept of Tsunami	
8	Causes and Impact of Tsunami	
9	History of Tsunami in India	
10	Distribution of Tsunami in India	
12	Do's and Do not's During and Post Tsunami	
13	Mapping of Tsunami Zones in India	
14	Concept of Cyclone	
15	Causes and Impact of Cyclone	
16	Distribution of Cyclones in India	
17	Do's and Do not's During Cyclone	
18	Mapping of Cyclone Zones in India	
19	Concept of Human induced disasters	
20	Cause and Impact of Human induced disasters	
21	Bhopal Gas Tragedy and Chernobyl nuclear Disaster	
22	Mitigation and Preparedness for disasters	
23	NDMA and NIDM	
24	Indigenous Knowledge and Community-Based Disaster Management	
25	Do's and Don'ts During Disasters	

DIGBOI COLLEGE: DIGBOI

Course Plan

Name of the teacher- Narendra Kumar Das
Course- Honours/Generic- Generic
Class/Semester- 2nd Semester (CBCS)
Name of the paper- Regional Development (GE-02)
Units Assigned- 3,4,5
Marks Assigned- 40

CLASS	UNITS/TOPIC	REMARKS
1	Concept of Region	
2	Choice of a region for planning	
3	Concept and Characteristics of Ideal Planning Region	
4	Concept and Characteristics of Ideal Planning Region	
5	Delineation of Planning Region	
6	Delineation of Planning Region	
7	Concept of Regionalization	
8	Regionalization of India for Planning	
9	Agro-Ecological Zones	
10	Agro-Ecological Zones	
11	Concept of Strategies and Models in Regional Planning	
12	Growth Pole Model of Perroux	
13	Growth Pole Model of Perroux	
14	Growth Center Model in Indian Context	
15	Growth Center Model in Indian Context	
16	Village Cluster Model in Indian Context	
17	Concept of Problem Regions in Regional Planning	
18	Tribal Area Development Programme	
19	Hill Area Development Programme	
20	DVC The Success story and Failure	
21	DVC The Success story and Failure	

DIGBOI COLLEGE: DIGBOI

Course Plan

Name of the teacher- Narendra Kumar Das
Course- Honours/Generic- Generic
Class/Semester- 3rd Semester (CBCS)
Name of the paper- Climate Change: Vulnerability & Adaptation (GE-3)
Units Assigned- 3, 4, 5
Marks Assigned- 40

CLASS	UNIT/TOPIC	REMARKS
1	Concept and Causes of Climate Change	
2	Impact of Climate Change on Agriculture	
3	Impact of Climate Change on Water	
4	Impact of Climate Change on Fresh Water, Marine Water	
5	Socio-Economic Impacts	
6	Impact of Climate Change on Flora	
7	Impact of Climate Change on Fauna	
8	How will Climate Change Affect Biodiversity	
9	Our Work To Tackle Climate Change	
10	Effect on Endangered Species and Strategy to Save	
11	Impact of Climate Change on Human Health	
12	Mitigation Measures to minimize the effect on Human Health	
13	Difference Between Mitigating and Adapting To Climate Change	
14	What Will The Earth Look in 2030 if We Defeat Climate Change	
15	Adaptation to Climate Change	
16	Mitigation to Climate Change	
17	Global Initiatives Regarding Climate Change	
18	Initiatives of South East Asia Regarding Climate Change	
19	National Action Plan on Climate Change	
20	Strategies of NAPCC	
21	Action of Urban Local Bodies on Climate Change	
22	Action of Panchayats on Climate Change	
23	Achievements of NAPCC	
24	Challenges and Suggestions of NAPCC	

DIGBOI COLLEGE: DIGBOI

Course Plan

Name of the teacher- Narendra Kumar Das
Course- Honours/Generic- Generic
Class/Semester- 4th Semester (CBCS)
Name of the paper- Climate Change: Vulnerability & Adaptation (GE-3)
Units Assigned- 3, 4, 5
Marks Assigned- 40

CLASS	UNIT/TOPIC	REMARKS
1	Concept of Mega Industrial Complexes	
2	National Capital Industrial Region	
3	Mumbai- Pune Industrial Region	
4	Major Problems Mumbai-Pune Industrial Region After Independence	
5	Bengaluru-Chennai Industrial Region	
6	Chotanagpur Industrial Region	
7	Factors Favourable for Industrialization in Chotanagpur Industrial Region	
8	Industries in Chotanagpur Region	
9	History of Industrialization in India	
10	Industrial Revolution in India	
11	Impact of Industrialization in India	
12	Environmental Impact of Industrialization in India	
13	Social Impact of Industrialization in India	
14	Economic Impact of Industrialization in India	
15	The Role of Industrialization in Economic Development of India	
16	Industrial Policy of India since Independence	
17	Objectives of Industrial Policy of India	
18	New Industrial Policy of India	
19	Outcomes of New Industrial Policy of India	
20	Limitations of Industrial Policy in India	
21	Future of Industrial Policies in India	

DIGBOI COLLEGE: DIGBOI

Course Plan

Name of the teacher- Narendra Kumar Das
Course- Honours/Generic- Pass Course
Class/Semester- 5th Semester (Non-CBCS)
Name of the paper- Economic Geography (GGRG-501)
Units Assigned- 1
Marks Assigned- 40

CLASS	UNIT/TOPIC	REMARKS
1	Introduction to Economic Geography	
2	Nature and Scope of Economic Geography	
3	Types of Economic Activities: Primary, Secondary	
4	Types of Activities: Tertiary, Quaternary & Quinary	
5	Economic activities in the Hills & Plains of NE India	
6	Economic activities Vs Environmental problems	
7	Economic activities Vs Environmental problems	
8	Concept and Types of Natural Resources	
9	Classification of Natural Resources	
10	World Distribution of Iron	
11	World Distribution of Coal, Petroleum	
12	World Distribution of Gold, Copper	
13	World Distribution of Aluminum	
14	Hydro-electricity in North East India	
15	Prospects of Hydro-electricity in North East India	
16	Problems of Hydro-electricity in North East India	
GGRG-502 (Practical)		
1	Measures of Central Tendency: Mean	
2	Median	
3	Mode	
4	Measures of Dispersion- Mean Deviation	
5	Standard Deviation	
6	Ogive	

DIGBOI COLLEGE: DIGBOI

Course Plan

Name of the teacher- Narendra Kumar Das
Course- Honours/Generic- Pass Course
Class/Semester- 6th Semester (Non-CBCS)
Name of the paper- Regional Geography of the World (GGRG-601)
Units Assigned- 1
Marks Assigned- 40

CLASS	UNIT/TOPIC	REMARKS
1	Introduction to Europe: Location, Size, Shape etc.	
2	Physical Divisions of Europe	
3	Soils of Europe	
4	Climate of Europe Summer Conditions	
5	Climate of Europe Winter Conditions	
6	Vegetation of Europe	
7	Minerals of Europe: Iron Ore	
8	Power Resources of Europe: Coal	
9	Petroleum Resource of Europe	
10	Hydro-Electricity of Europe	
11	Agricultural Resources of Europe: Types of Agriculture in Europe	
12	Wheat- Production & Distribution	
13	Maize- Production & Distribution	
14	Rice- Production & Distribution	
15	Major Industries of Europe	
16	Major Industries of Europe	
17	Distribution of Population in Europe	
GGRG-602 (Practical)		
1	Map of China: Distribution of Industries	
2	Map of Petroleum reserves of Middle East	
3	Map of SAARC Countries	
4	Population Density Map of South East Asia 2001	

Department of Hindi

DIGBOI COLLEGE, DIGBOI
Course Plan (Session June- December 2020)
Department Of Hindi

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (RitikaalTak), C-1

Units Assigned- Unit – 2 & Unit - 3

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	BhaktikaaleenPrishthabhoomi (Uday)	
3.	BhaktikaaleenPrishthabhoomi (Uday)	
4.	BhaktikaaleenPrishthabhoomi (Uday)	
5.	Tutorial / Discussion	
6.	BhaktikaaleenPrishthabhoomi (Naamkaran)	
7.	BhaktikaaleenPrishthabhoomi (Naamkaran)	
8.	BhaktikaaleenPrishthabhoomi (Naamkaran)	
9.	Tutorial / Discussion	
10.	Bhaktikaaleen Pravriti	
11.	Bhaktikaaleen Pravriti	
12.	Tutorial / Discussion	
13.	BhaktikaaleenParisthiti,	
14.	BhaktikaaleenParisthiti,	
15.	BhaktikaaleenParisthiti,	
16.	BhaktikaaleenParisthiti,	
17.	Tutorial / Discussion	

18. Bhaktikaal ki Dharayen
19. Bhaktikaal ki Dharayen : Sagun Dhara
20. Bhaktikaal ki Dharayen : Sagun Dhara (Visheshatayen)
21. Bhaktikaal ki Dharayen : Sagun Dhara (Ram Kavyadhara)
22. Bhaktikaal ki Dharayen : Sagun Dhara (Krishna Kavyadhara)
23. Tutorial / Discussion
24. Bhaktikaal ki Dharayen :, Nirgun Dhara
25. Bhaktikaal ki Dharayen :, Nirgun Dhara (Visheshatayen)
26. Bhaktikaal ki Dharayen :, Nirgun Dhara (Sant Kavyadhara)
27. Bhaktikaal ki Dharayen :, Nirgun Dhara (Soofi Kavyadhara)
28. Bhaktikaal ki Dharayen: SaamaanyaParichaya/ Visheshatayen
29. Tutorial / Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (Aadhunik Kaal), C-2

Units Assigned- Unit – 3 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Hindi Gadyakaa Vikas	
3.	Hindi Gadyakaa Vikas - Samaanya Parichay,	
4.	Hindi Gadyakaa Vikas - Samaanya Parichay,	
5.	Hindi Gadyakaa Vikas - Samaanya Parichay.	
6.	Tutorial / Discussion.	
7.	Upanyaas – Udbhaw aur Vikas,	
8.	PremchandKaleenUpanyaas,	
9.	PremchandottarUpanyaas.	
10.	Kahani– Udbhaw aur Vikas,	
11.	PremchandKaleen Kahani–	
12.	Premchandottar Kahani.	
13.	Tutorial / Discussion.	
14.	Nibandh- Udbhaw aur Vikas,	
15.	ShuklayugeenNibandh,	
16.	ShuklottarNibandh.	
17.	Naataki- Udbhaw aur Vikas,	
18.	Ekanki- Udbhaw aur Vikas,	
19.	Hindi Gadya ki Anya Vidhaayen – Samanya Parichaya	
20.	Rekhachittra,	

21. Sansmaran,
22. Ripotaarj,
23. Jeewani,
24. Aatmakathaa.
25. Tutorial / Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 3rd Semester

Name of the Paper- Chhayaavaadottar Kavita (C-5)

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Kedarnaath Agrawal – Kavi Parichaya	
3.	1. Khet kaa Drishya- Vyakhya	
4.	Khet kaa Drishya -Vyakhya,	
5.	2. Pakshi-din- Vyakhya,	
6.	Pakshi-din -Vyakhya	
7.	Tutorial / Discussion.	
8.	Naagaarjun - Kavi Parichaya	
9.	1. Kaalidas – Vyakhya,	
10.	Kaalidas – Vyakhya	
11.	Kaalidas – Vyakhya	
12.	2. Baadal ko GhirateDekhahai - Vyakhya	
13.	Baadal ko GhirateDekhahai- Vyakhya	
14.	Baadal ko GhirateDekhahai- Vyakhya	
15.	Baadal ko GhirateDekhahai- Vyakhya	
16.	Tutorial / Discussion.	
17.	RamdhaariSingh ‘Dinkar’ – Kavi Parichaya	
18.	1. Himaalay- Vyakhya	

19. Himaalay – Vyakhya
20. 2. Budhadev – Vyakhya
21. Budhadev – Vyakhya
22. Tutorial / Discussion.
23. MakhanlaalChaturwedi - Kavi Parichaya
24. 1. Geetonke Raajaa - Vyakhya
25. Geetonke Raajaa – Vyakhya
26. 2. Pushp ki Abhilaashaa - Vyakhya
27. Pushp ki Abhilaashaa – Vyakhya
28. Tutorial / Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester - B.A. 3rd Semester

Name of the Paper - BhaaratyaKaavyaShaastra (C-6)

Units Assigned - Unit -1 & Unit - 2

Marks Assigned - 20 + 20

Class	Topic/ Unit	Remarks
1.	Intoduction	
2.	Kaavya Lakshan,	
3.	Kaavya Lakshan.	
4.	Tutorial / Discussion.	
5.	Kavya Hetu,	
6.	Kavya Hetu.	
7.	Tutorial / Discussion.	
8.	Kavya Prayojan,	
9.	Kavya Prayojan.	
10.	Tutorial / Discussion.	
11.	Ras Siddhant,	
12.	Ras ki Awadhaarana,	
13.	Ras ki Awadhaarana,	
14.	Tutorial / Discussion.	
15.	Ras Nishpati ,	
16.	Ras Nishpati .	
17.	Saadhaaranikaran.	
18.	Tutorial / Discussion.	
19.	Alankar Siddhant,	

- 20. Alankaron ka Vargikaran.
- 21 Alankaron ka Vargikaran
- 22 Tutorial / Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester-B.A. 3rd Semester

Name of the Paper- PashchaatyaKaavyashasttraewam Nayee Samiksha (C-7)

Units Assigned- Unit – 3 & Unit - 4

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Kroche – Abhivyanjanaavaad	
3.	Kroche – Abhivyanjanaavaad	
4.	Tutorial / Discussion.	
5.	T. S. Eliot – Parampara aur Vaiyaktik Pratibha, Nirvaiyaktikata ka Siddhant.	
6.	T. S. Eliot – Parampara aur Vaiyaktik Pratibha,	
7.	T. S. Eliot –, Nirvaiyaktikata ka Siddhant.	
8.	Tutorial / Discussion.	
9.	I. A. Richards – Moolya Siddhant	
10.	I. A. Richards – Moolya Siddhant.	
11.	I. A. Richards – Sampreshan Siddhant,	
12.	I. A. Richards – Sampreshan Siddhant,	
13.	Tutorial / Discussion.	
14.	Nayee Samiksha,	
15.	Nayee Samiksha.	
16.	Marksvaadi Samiksha,	
17.	Marksvaadi Samiksha.	

18. Tutorial/ Discussion
19. Shasttriyataavaad,
20. Yatharthavaad
- 21 Shaili Vigyan
- 22 Tutorial/ Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Major

Class/Semester-B.A. 5th Semester

Name of the Paper- Aalochana (501)

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Aalochana kivyutpati	
3.	Aalochana kivyutpati	
4.	Aalochana kivyutpati	
5.	Aalochana ka Swaroop	
6.	Aalochana ka Swaroop	
7.	Aalochana ka Swaroop	
8.	Tutorial	
9.	SahityakeAdhayayan ki drishtiyan	
10.	Aitihāsik	
11.	Aitihāsik	
12.	Manovāigyanik	
13.	Manovāigyanik	
14.	Samajshāstriya	
15.	Samajshāstriya	
16.	Shailiivāigyanik	
17.	Shailiivāigyanik	
18.	Tutorial	
19.	Ramchandra Shukla ki Aalochana	
20.	Ramchandra Shukla ki Aalochana	

- 21 Hajari prasad Dwivedi ki Aalochna
- 22 Hajari prasad Dwivedi ki Aalochna
- 23. Aacharya Ramvilas Sharma ke kavya sidhhanton ka
 Samanya Parichaya
- 24 Aacharya Ramvilas Sharma ke kavya sidhhanton ka
 Samanya Parichaya
- 25. Tutorial/ Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Major

Class/Semester-B.A. 5th Semester

Name of the Paper- Asamiya Sahitya Ka ParichayaatmakItihas (502)

Units Assigned- Unit – 1 & Unit - 4

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Asamiya Bhasha ka Udbhav	
3.	Asamiya Bhasha ka Udbhav	
4.	Asamiya Bhasha Ka Vikash	
5.	Asamiya bhasha Ka Vikash	
6.	Asamiya bhasha Ka Vikash	
7.	Asamiya bhasha Ka Vikash	
8.	Tutorial	
9.	Nav VaishnavBhaktikal	
10.	Nav VaishnavBhaktikal	
11.	Nav VaishnavBhaktikal	
12.	Romantik Kal Ka Parichay	
13.	Romantik Kal Ka Parichay	
14.	Romantik Kal Ka Parichay	
15.	Romantik Kal Ke Kaviyon ka Parichay	
16.	Romantik Kal Ke Kaviyon ka Parichay	
17.	Romantik Kal Ke Kaviyon ka Parichay	
18.	Asamiya Sahitya Ka sankshipt Parichay	
19.	Asamiya Sahitya Ka sankshipt Parichay	
20.	Asamiya Sahitya Ka sankshipt Parichay	

21	Asamiya Sahitya Ka sankshipt Parichay
22	Tutorial/ Discussion.
23	Shankardev Ka Jivan Parichay
24	Shankardev Ka Jivan Parichay
25	Shankardev Ka Bargeet
26	Madhav Dev Ka Jivan Parichay
27	Madhav Dev Ka Jivan Parichay
28	Madhav Dev Ka Bargeet

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Major

Class/Semester-B.A. 5th Semester

Name of the Paper- Prayojanmoolak Hindi (503)

Units Assigned- Unit – 3& Unit - 4

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Prayojanmoolak Hindi ka Samanya Parichay	
3.	Prayojanmoolak Hindi ka Samanya Parichay	
4.	Prayojanmoolak Hindi ka Samanya Parichay	
5.	Prayojanmoolak Hindi or usakiParibhashikShabdawali	
6.	Prayojanmoolak Hindi or usakiParibhashikShabdawali	
7.	Prayojanmoolak Hindi or usakiParibhashikShabdawali	
8.	Tutorial	
9.	PrashashanikShabdawali	
10.	SahityikShabdawali	
11.	VaigyanikShabdawali	
12.	TaknikiShabdawali	
13.	Tutorial	
14.	Rajbhasha Hindi ki SamvaidhanikSthiti	
15.	Rajbhasha Hindi ki SamvaidhanikSthiti	
16.	Rajbhasha Hindi ki SamvaidhanikSthiti	
17.	Rajbhasha Hindi ki SamvaidhanikSthiti	
18.	Karyalayee Hindi ki Prakriti	
19.	Karyalayee Hindi ki Prakriti	
20.	PrashashanikPtrachaarkePrakar	

21	PrashashanikPtrachaarkePrakar
22	PrashashanikPtrachaarkePrakar
23	Tippan
24	Tippan
25	Praroopan
26	Praroopan
27	Tutorial

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Major

Class/Semester-B.A. 5th Semester

Name of the Paper- Sanchar Madhyam Lekhan (504)

Units Assigned- Unit – 3& Unit - 4

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Sanchar Madhyamokevividh Roop	
3.	Sanchar Madhyamokevividh Roop	
4.	Sanchar Madhyamokevividh Roop	
5.	Sahityikvidhaon ki Drishya - ShravyaRoopantaran Kala	
6.	Sahityikvidhaon ki Drishya - Shravya Roopantaran Kala	
7.	Sahityikvidhaon ki Drishya - Shravya Roopantaran Kala	
8.	Tutorial	
9.	Elektronik Media PrasariSamacharonkeSankalan- Sampadan or Prastutikaran ki Pravidhi	
10.	Elektronik Media PrasariSamacharonkeSankalan- Sampadan or Prastutikaran ki Pravidhi	
11.	Elektronik Media PrasariSamacharonkeSankalan- Sampadan or Prastutikaran ki Pravidhi	
12.	Tutorial	
13.	Sanchar MadhyamDwaraPrasariVigyapanon ki Bhasha	
14.	Sanchar MadhyamDwaraPrasariVigyapanon ki Bhasha	
15.	Vigyapanfilmo Ki Pravidhi	
16.	Vigyapanfilmo Ki Pravidhi	

17. Sanchar Madhyamon Ki Bhasha
18. Sanchar Madhyamon Ki Bhasha
19. Hindi Ke Samaksha Aadhunik Jansanchar or Soochana
Pradyougiki Ki Chunoutiyan
20. Hindi Ke Samaksha Aadhunik Jansanchar or Soochana
Pradyougiki Ki Chunoutiyan
21. Hindi Ke Samaksha Aadhunik Jansanchar or Soochana
Pradyougiki Ki Chunoutiyan
22. Tutorial/ Discussion.

DIGBOI COLLEGE, DIGBOI

Course Plan (Session Jan.- May 2021)

Department Of Hindi

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 2nd Semester

Name of the Paper-Aadikaleen ewam Madhyakaleen Hindi Kavita, C-3

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Vidyapati Ka Sahityik Parichaya,	
3.	Bhal Har Bhal Hari Bhal Tua Kala- Vyakhaya	
4.	Nandak Nandan Kademberi Taroo Tare- Vyakhaya	
5.	Dekh Dekh Radha-Roop Apaar- Vyakhaya	
6.	Vidyapati Bhakt Kavi	
7.	Vidyapati Shringarik Kavi	
8.	Tutorial/Discussion.	
9.	Meerabaai Ka Sahityik Parichaya,	
10.	Meerabaai Ke Kavya Men Bhakti-Bhavana	
11.	Patiyan Main Kaise LikhooLikhyoroo Na Jaay- Vyakhaya	
12.	Payo Ji mai To Ram Ratan Dhan Payo- Vyakhaya	
13.	Ghayal Ki Gati Ghayal Janya- Vyakhaya	
14.	Question & Answer	
15.	Tutorial / Discussion	
16.	Kavir jeewan Parichaya	
17.	Kabir Samaj Sudharak	

18. Dulahini Gayahu Mangal Char Vyakhaya
19. Awadhoo Mera Man MatimaraVyakhaya
20. Maya Maha Thagini Hum JaniVyakhaya
21. Jayasi – Parichaya
22. Nagmati ka viyog Varnan
23. Barahmasha 1&2Vyakhaya
24. Barahmasha 3&4Vyakhaya
25. Barahmasha 5&6Vyakhaya
26. Barahmasha 7&8Vyakhaya
27. Barahmasha 9&10Vyakhaya
28. Barahmasha 11&12Vyakhaya
29. Tutorial/ Discussion

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 2nd Semester

Name of the Paper- Aadhunik Hindi Kavita (Chhayaavad Tak), C-4

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Bharatendu Harishchandra Ka Sahityik Parichay	
3.	Hindi Bhasha- 15 Dohe (1-15)	

4. Hindi Bhasha-1-5- Vyaakhyaa
5. Hindi Bhasha-6-10- Vyaakhyaa,
6. Hindi Bhasha-11-15 – Vyaakhyaa,
7. Hindi Bhasha- Question & Answer
8. Hindi Bhasha- Question & Answer
9. Tutorial / Discussion
10. Ayodhyasingh Upadhyay' Hariaudha' -Sahityik Parichaya
11. Priyaprawas, (Shashtasarg) Pratham 6 Chhand
12. Priyaprawas- Vyaakhyaa
13. Priyaprawas – Vyaakhyaa,
14. Priyaprawas – Vyaakhyaa,
15. Question & Answer
16. Question & Answer
17. Tutorial / Discussion .
18. Maithilisharan Gupt - Sahityik Parichaya
19. Yashodhara- 1 – Vyaakhyaa
20. Yashodhara- 2 – Vyaakhyaa
21. Yashodhara- 1&2 – Saransh
22. Question & Answer
23. Tutorial / Discussion
24. Ramnaresh Tripathi - Sahityik Parichaya
25. Jeewan – Sandesh - Vyaakhyaa
26. Jeewan – Sandesh - Vyaakhyaa
27. Question & Answer
28. Tutorial / Discussion

Name of the Teacher- Dr.Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 4th Semester

Name of the Paper- Bhasha Vigyan Aur Hindi Bhasha, C-8

Units Assigned- Unit – 3 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Vakya Vigyan - Swaroop	
3.	Vakya Vigyan ki Paribhasha	
4.	Vakya Vigyan - Prakar	
5.	Arth Vigyan - Swaroop	
6.	Arth Vigyan- Paribhasha	
7.	Arth Pariwartan ki Dishayen	
8.	Arth Pariwartan ki Dishayen	
9.	Arth Pariwartan ki Dishayen	
10.	Arth Parivatan Ke Karan	
11.	Arth Parivatan Ke Karan	
12.	Arth Parivatan Ke Karan	
13.	Arth Parivatan Ke Karan	
14.	Tutorial/ Discussion	
15.	Hindi Bhasha : Udbhav	
16.	Hindi Bhasha : Udbhav	
17.	Hindi Bhasha : Vikash	
18.	Hindi Bhasha : Vikash Kram	

19. Devnagari Lipi - Swaroop
20. Devnagari Lipi – Naamkaran
21. Devnagari Lipi – Naamkaran
22. Devnagari Lipi – Visheshataayen
23. Devnagari Lipi – Visheshataayen
24. Devnagari Lipi – Visheshataayen
25. Tutorial / Discussion

Name of the Teacher- Dr.Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 4th Semester

Name of the Paper- Hindi Upanyas , C-9

Units Assigned- Unit – 2 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Jainendra Ki Upanyas Kala	
3.	Tyaagapatra– Upanyas Explanation	
4.	Tyaagapatra— Upanyas Explanation	
5.	Tyaagapatra– – Upanyas Explanation	
6.	Tyaagapatra— Upanyas Explanation	
7.	Tyaagapatra– – Upanyas Explanation	
8.	Tyaagapatra– – Upanyas Kala ke tatwa ke Samiksha	
9.	Tyaagapatra— Upanyas Kala ke tatwa ke Samiksha	
10.	Tyaagapatra— Upanyas ke Patron ka Charitra - Chitran	

11. Tyaagapatra—Important Paragraph Ka Vyaakhya.
12. Tyaagapatra—Important Paragraph Ka Vyaakhya.
13. Tutorial / Discussion
14. Manu Bhandari - Sahityik Parichaya
15. Mahabhoj - Upanyas Explanation
16. Mahabhoj - Upanyas Explanation
17. Mahabhoj - Upanyas Explanation
18. Mahabhoj - Upanyas Explanation
19. Mahabhoj - Upanyas Explanation
20. Mahabhoj - Upanyas Explanation
21. Mahabhoj - Upanyas Explanation
22. Mahabhoj - Upanyas Explanation
23. Mahabhoj - Upanyas - Kalaa
24. Mahabhoj - Upanyas - Patra-Yojana
25. Tutorial / Discussion.

Name of the Teacher- Dr.Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 4th Semester

Name of the Paper- Hindi Kahani, C-10

Units Assigned- Unit –1& Unit -2

Marks Assigned - 20+20

	Topic/ Unit	Remarks
Class		
1.	Introduction	
2.	Chandradhar Sharma Guleri- Parichaya,	

3. 'Usane Kaha tha' Kahani,
4. 'Usane Kaha tha' Kahani
5. 'Usane Kaha tha' Kahani
6. 'Usane Kaha tha' Kahani
7. 'Usane Kaha tha' Kahani Patra Yojana,
8. 'Usane Kaha tha'' Kahani- Kala ke Tatwa ki Samiksha,
9. 'Usane Kaha tha'' Kahani ki Vyaakhyaa
10. Premchand ka Parichaya
11. 'Poos ki Raat' - Kahani
12. 'Poos ki Raat' - Kahani
13. 'Poos ki Raat' - Kahani
14. 'Poos ki Raat' - Kahani Malabe ka Malik' - Kahani ki Samiksha
15. 'Poos ki Raat' - Kahani Malabe ka Malik' - Kahani ki Patra Yojana
16. Halku ka Charitra-Chitran
17. 'Poos ki Raat' - Kahani ki Important Lines Ki Vyaakhyaa.
18. 'Poos ki Raat' - Kahani ki Important Lines Ki Vyaakhyaa.
19. Tutorial / Discussion
20. Jayshankar Prasad ka Parichaya
21. Aakashadeep Kahani
22. Aakashadeep Kahani
23. Aakashadeep Kahani
24. Aakashadeep Kahani – Kahani- Patra Yojana
25. Aakashadeep Kahani – Kahani – Kala ke Aadhar Par Samiksha
26. Aakashadeep Kahani – Kahani ki Vyaakhyaa
27. Aakashadeep Kahani – Kahani ki Vyaakhyaa
28. Tutorial / Discussion
29. Jainendra – Parichaya

30. Paajeb Kahani
31. Paajeb – Kahani
32. Paajeb – Kahani
33. Paajeb– Kahani ki Samiksha
34. Paajeb– Kahani ki Vyaakhyaa
35. Tutorial / Discussion.

Name of the Teacher- Dr. . Pradeep Kumar Bharati

Course –Honours / Generic – Major

Class/Semester-B.A. 6th Semester

Name of the Paper- Aadhunik Hindi Kavya(601)

Units Assigned- Unit – 2

Marks Assigned- 20+20

	Class	Topic/ Unit	Remarks
1.		Introduction	
2.		Chhaayaavaadottar Kavya	
3.		Dinkar- Sahityik Parichay	
4.		Himalay ke Prati- Vyakhya	
5.		Himalay ke Prati -Vyakhya	
6.		Harivansharaay Bachchan-Sahityik Parichay	
7.		Nid ka Nirman-Vyakhya	
8.		Nid ka Nirman- Vyakhya	
9.		Rameshwar Shukla Anchal -Sahityik Parichay	
10.		Kaante Kam Se Kam Mat Boao-Vyakhya	
11.		Kaante Kam Se Kam Mat Boao- Vyakhya	
12.		Kaante Kam Se Kam Mat Boao- Vyakhya	

13. Mahendra Bhatnaagar -Sahityik Parichay
14. Bijaliyan Girane Nahin Denge.-Vyakhya
15. Bijaliyan Girane Nahin Denge- Vyakhya
16. Discussion
17. Girija Kumar Mathur-Sahityik Parichay
18. Itihas : Vikriti Satya-Vyakhya
19. Question/Answer
20. Question/Answer

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Major

Class/Semester-B.A. 6th Semester

Name of the Paper- Bhasha Vigyan, Hindi Bhasha ewam Lipi(602)

Units Assigned- Unit – 3 & Unit - 4

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Itroduction	
2.	Bharopiya Parivar	
3.	Bharopiya Parivar	
4.	Bharopiya Parivar	
5.	Prachin Bharatiya Arya Bhashayen	
6.	Prachin Bharatiya Arya Bhashayen	
7.	Prachin Bharatiya Arya Bhashayen	
8.	Adhunik Bharatiya Arya Bhashayen -Vargikaran	
9.	Adhunik Bharatiya Arya Bhashayen- Vargikaran	
10.	Adhunik Bharatiya Arya Bhashayen -Vargikaran	
11.	Adhunik Bharatiya Arya Bhashayen - Swaroop	

12. Adhunik Bharatiya Arya Bhashayen -Swaroop
13. Adhunik Bharatiya Arya Bhashayen- Visheshatayen
14. Adhunik Bharatiya Arya Bhashayen - Visheshatayen
15. Pramukh Bharatiya Arya Bhashaon ka Parichay
16. Pramukh Bharatiya Arya Bhashaon ka Parichay
17. Pramukh Bharatiya Arya Bhashaon ka Parichay
18. Pramukh Bharatiya Arya Bhashaon ka Parichay
19. Pramukh Bharatiya Arya Bhashaon ka Parichay
20. Hindi ki Aitihāsik Prishṭhabhoomi
21. Hindi ki Aitihāsik Prishṭhabhoomi
22. Hindi Ki Bhōgolik Vistaar
23. Hindi Ki Bhōgolik Vistaar
24. Hindi Ki Up Bhaashaayen
25. Paschimi Hindi
26. Poorvi Hindi
27. Rajasthani Hindi
28. Bihari Hindi
29. Pahadi Hindi
30. Hindi Bhasha Ka Manakikaran
31. Hindi Bhasha Ka Manakikaran
32. Hindi Bhasha Ka Manakikaran

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Major

Class/Semester-B.A. 6th Semester

Name of the Paper- Anuwad Vigyan (603)

Units Assigned- Unit –3 & Unit - 4

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1,	Introduction	
2.	Anuvad Ke Upakaran	
3.	Anuvad Ke Upakaran	
4.	Anuvad Ke Upakaran	
5.	Kosh	
6.	Kosh	
7.	Kosh	
8.	Kosh	
9.	Paribhashik Shabdawali	
10.	Paribhashik Shabdawali	
11.	Paribhashik Shabdawali	
12.	Thisaras	
13.	Thisaras	
14.	Thisaras	
15.	Thisaras	
16.	Computer	
17.	Computer	
18.	Computer	
19.	Computer	
20.	Discussion	

21	Anuvad ki Sahityik Samasyayen
22	Anuvad ki Sahityik Samasyayen
23	Anuvad ki Sahityik Samasyayen
24	Anuvad ki Sahityiketar Samasyayen
25	Anuvad ki Sahityiketar Samasyayen
26	Anuvad ki Sahityiketar Samasyayen
27	Safal Anuvad Ke Gun
28	Safal Anuvad Ke Gun
29	Anuvad Ke Sarthakata
30	Anuvad Ke Sarthakata
31	Anuvad Ke Prasangikata
32	Anuvad Ke Prasangikata
33	Anuvad Ke Vyawasayik Paridrishya
34	Anuvad Ke Vyawasayik Paridrishya
35	Vyawaharik Anuvad
36	Vyawaharik Anuvad
37	Paribhashik Shabdawali
38	Paribhashik Shabdawali
39	Vishishta Padnam

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Major

Class/Semester-B.A. 6th Semester

Name of the Paper- Tulasi Sahitya (Vishesh Patra)(604)

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Aadhunikata Ki Chunouti our Tulasidas	
3.	Aadhunikata Ki Chunouti our Tulasidas	
4.	Aadhunikata Ki Chunouti our Tulasidas	
5.	Vinay Patrika Me Bhaktimoola Prapati	
6.	Vinay Patrika Me Bhaktimoola Prapati	
7.	Vinay Patrika Me Bhaktimoola Prapati	
8.	Tulasi Ke Sahitya Samaj	
9.	Tulasi Ke Sahitya Samaj	
10.	Tulasi Ke Sahitya Samaj	
11.	Manas Ke Paripekshya Me Tulasi	
12.	Manas Ke Paripekshya Me Tulasi	
13.	Manas Ke Paripekshya Me Tulasi	
14.	Discussion	
15.	Ramcharitmanas Ayodhya Kand 1,2,3 Pad	
16.	Ramcharitmanas Ayodhya Kand 4,5,6, Pad	
17.	Ramcharitmanas Ayodhya Kand 7,8,9,10, Pad	
18.	Ramcharitmanas Ayodhya Kand 11,12,13,14,15 Pad	
19.	Ramcharitmanas Ayodhya Kand 16,17,18,19,20, Pad	
20.	Ramcharitmanas Ayodhya Kand27,28,29 Pad	

21	Ramcharitmanas Ayodhya Kand 30, 31, 32 Pad
22	Ramcharitmanas Ayodhya Kand 33, 34, 35. Pad
23	Ayodhya Kand Me Chitrakut Sabha
24	Ayodhya Kand Me Chitrakut Sabha
25	Ayodhya Kand Ka Mahatwa
26	Ayodhya Kand Ka Mahatwa
27.	Question / Answer

DIGBOI COLLEGE, DIGBOI

Course Plan (Session June- December 2021)

Department Of Hindi

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (RitikaalTak), C-1

Units Assigned- Unit – 2 & Unit - 3

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	BhaktikaaleenPrishthabhoomi (Uday)	
3.	BhaktikaaleenPrishthabhoomi (Uday)	
4.	BhaktikaaleenPrishthabhoomi (Uday)	
5.	Tutorial / Discussion	
6.	BhaktikaaleenPrishthabhoomi (Naamkaran)	
7.	BhaktikaaleenPrishthabhoomi (Naamkaran)	
8.	BhaktikaaleenPrishthabhoomi (Naamkaran)	

9. Tutorial / Discussion
10. Bhaktikaaleen Pravriti
11. Bhaktikaaleen Pravriti
12. Tutorial / Discussion
13. BhaktikaaleenParisthiti,
14. BhaktikaaleenParisthiti,
15. BhaktikaaleenParisthiti,
16. BhaktikaaleenParisthiti,
17. Tutorial / Discussion
18. Bhaktikaal ki Dharayen
19. Bhaktikaal ki Dharayen : Sagun Dhara
20. Bhaktikaal ki Dharayen : Sagun Dhara(Visheshatayen)
21. Bhaktikaal ki Dharayen : Sagun Dhara (Ram Kavyadhara)
22. Bhaktikaal ki Dharayen : Sagun Dhara (Krishna Kavyadhara)
23. Tutorial / Discussion
24. Bhaktikaal ki Dharayen :, Nirgun Dhara
25. Bhaktikaal ki Dharayen :, Nirgun Dhara (Visheshatayen)
26. Bhaktikaal ki Dharayen :, Nirgun Dhara (Sant Kavyadhara)
27. Bhaktikaal ki Dharayen :, Nirgun Dhara (Soofi Kavyadhara)
28. Bhaktikaal ki Dharayen: SaamaanyaParichaya/ Visheshatayen
29. Tutorial / Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (Aadhunikaal), C-2

Units Assigned- Unit – 3 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Hindi Gadyakaa Vikas	
3.	Hindi Gadyakaa Vikas - Samaanya Parichay,	
4.	Hindi Gadyakaa Vikas - Samaanya Parichay,	
5.	Hindi Gadyakaa Vikas - Samaanya Parichay.	
6.	Tutorial / Discussion.	
7.	Upanyaas – Udbhaw aur Vikas,	
8.	PremchandKaleenUpanyaas,	
9.	PremchandottarUpanyaas.	
10.	Kahani– Udbhaw aur Vikas,	
11.	PremchandKaleen Kahani–	
12.	Premchandottar Kahani.	
13.	Tutorial / Discussion.	
14.	Nibandh- Udbhaw aur Vikas,	
15.	ShuklayugeenNibandh,	
16.	ShuklottarNibandh.	
17.	Naataki- Udbhaw aur Vikas,	
18.	Ekanki- Udbhaw aur Vikas,	
19.	Hindi Gadya ki Anya Vidhaayen – Samanya Parichaya	
20.	Rekhachittra,	

21. Sansmaran,
22. Ripotaarj,
23. Jeewani,
24. Aatmakathaa.
25. Tutorial / Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B.A. 3rd Semester

Name of the Paper- Chhayaavaadottar Kavita (C-5)

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Kedarnaath Agrawal – Kavi Parichaya	
3.	1. Khet kaa Drishya-Vyakhya	
4.	Khet kaa Drishya-Vyakhya,	
5.	2. Pakshi-din- Vyakhya,	
6.	Pakshi-din -Vyakhya	
7.	Tutorial / Discussion.	
8.	Naagaarjun - Kavi Parichaya	
9.	1. Kaalidas – Vyakhya,	
10.	Kaalidas– Vyakhya	
11.	Kaalidas – Vyakhya	
12.	2. Baadal ko GhirateDekhahai - Vyakhya	
13.	Baadal ko GhirateDekhahai- Vyakhya	
14.	Baadal ko GhirateDekhahai- Vyakhya	
15.	Baadal ko GhirateDekhahai- Vyakhya	
16.	Tutorial / Discussion.	
17.	Ramdhaari Singh ‘Dinkar’ – Kavi Parichaya	
18.	1. Himaalay- Vyakhya	

19. Himaalay– Vyakhya
20. 2. Budhadev - Vyakhya
21. Budhadev – Vyakhya
22. Tutorial / Discussion.
23. MakhanlaalChaturwedi - Kavi Parichaya
24. 1. Geetonke Raajaa - Vyakhya
25. Geetonke Raajaa – Vyakhya
26. 2. Pushp ki Abhilaashaa - Vyakhya
27. Pushp ki Abhilaashaa – Vyakhya
28. Tutorial / Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester - B.A. 3rd Semester

Name of the Paper - BhaaratiyaKaavyaShaastra (C-6)

Units Assigned - Unit -1& Unit - 2

Marks Assigned - 20 + 20

Class	Topic/ Unit	Remarks
1.	Intoduction	
2.	Kaavya Lakshan,	
3.	Kaavya Lakshan.	
4.	Tutorial / Discussion.	
5.	Kavya Hetu,	
6.	Kavya Hetu.	
7.	Tutorial / Discussion.	
8.	Kavya Prayojan,	
9.	Kavya Prayojan.	
10.	Tutorial / Discussion.	
11.	Ras Siddhant,	
12.	Ras ki Awadhaarana,	
13.	Ras ki Awadhaarana,	
14.	Tutorial / Discussion.	
15.	Ras Nishpati,	
16.	Ras Nishpati.	
17.	Saadhaaranikaran.	
18.	Tutorial / Discussion.	
19.	Alankar Siddhant,	

- 20. Alankaron ka Vargikaran.
- 21 Alankaron ka Vargikaran
- 22 Tutorial / Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester-B.A. 3rd Semester

Name of the Paper- PashchaatyaKaavyashasttraewam Nayee Samiksha (C-7)

Units Assigned- Unit – 3& Unit - 4

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Kroche – Abhivyanjanaavaad	
3.	Kroche – Abhivyanjanaavaad	
4.	Tutorial / Discussion.	
5.	T. S. Eliot – Parampara aur Vaiyaktik Pratibha, Nirvaiyaktikata ka Siddhant.	
6.	T. S. Eliot – Parampara aur Vaiyaktik Pratibha,	
7.	T. S. Eliot –, Nirvaiyaktikata ka Siddhant.	
8.	Tutorial / Discussion.	
9.	I. A. Richards – Moolya Siddhant	
10.	I. A. Richards – Moolya Siddhant.	
11.	I. A. Richards – Sampreshan Siddhant,	
12.	I. A. Richards – Sampreshan Siddhant,	
13.	Tutorial / Discussion.	
14.	Nayee Samiksha,	
15.	Nayee Samiksha.	
16.	Marksvaadi Samiksha,	
17.	Marksvaadi Samiksha.	
18.	Tutorial/ Discussion	

19. Shasttriyataavaad,
20. Yatharthavaad
- 21 Shaili Vigyan
- 22 Tutorial/ Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati Course –Honours / Generic – Honours

Class/Semester- B. A. 5th Semester

Name of the Paper- Hindi NaatakewamEkanki (C-11)

Units Assigned- Unit -3& Unit - 4

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Aashadha ka Ek Din – Mohan Rakesh	
2.	Natak Explanation	
3.	Natak Explanation	
4.	Natak Explanation	
5.	Natak Explanation	
6.	Natak Explanation	
7.	Natak Explanation	
8.	Natak Question & Answer	
9.	Natak Question & Answer	
10.	Natak Question & Answer	
11.	Natak Question & Answer	
12.	Aashadha ka Ek Din- Vyaakhya	
13.	Aashadha ka Ek Din- Vyaakhya	
14.	Tutorial/ Discussion	
15.	Tutorial/ Discussion	
16.	Aurangajeb ki Aakhari Raat – Raam Kumar Verma,	
17.	Aurangajeb ki Aakhari Raat – Raam Kumar Verma,	
18.	Tutorial/ Discussion	
19.	Vishakanya – Govindavallabha Pant,	
20.	Vishakanya – Govindavallabha Pant,	

21. Tutorial/ Discussion
22. Aur Vah Jaa N Saki – Vishnu Prabhakar
23. Aur Vah Jaa N Saki – Vishnu Prabhakar
24. Tutorial/ Discussion.

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B. A. 5th Semester

Name of the Paper- Hindi Nibandhaewam Anya GadyaVidhaayen (C-12)

Units Assigned- Unit -3 & Unit - 4

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Majadoori aur Prem – SardarPoorn Singh,	
2.	Majadoori aur Prem - Explanation	
3.	Majadoori aur Prem – Vyaakhya	
4.	Tutorial/ Discussion	
5.	BhaavewamManovikaar – Aachaarya Ramchandra Shukla.	
6.	BhaavewamManovikaar –	
7.	BhaavewamManovikaar – Vyaakhya	
8.	Tutorial/ Discussion	
9.	Devdaaroo- Aachaarya Hazari Prasad Divvedi	
10.	Devdaaroo-	
11.	Devdaaroo-Vyaakhya	
12.	Devdaaroo- Samiksha	
13.	Tutorial/ Discussion	
14.	Mere Ram ka Mukut Bhing Raha hai – Vidyaa Nivas Mishra	
15.	Mere Ram ka Mukut Bhing Raha hai	
16.	Mere Ram ka Mukut Bhing Raha hai – Vyaakhya	
17.	Tutorial/ Discussion	
18.		

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B. A. 5th Semester

Name of the Paper- AsamiyaBhaashaewam Sahitya (DSE-1)

Units Assigned- Unit -1& Unit - 2

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	AsamiyaBhaasha : Udbhav aur Vikas	
3.	AsamiyaBhaasha : Udbhav	
4.	AsamiyaBhaasha : Udbhav	
5.	AsamiyaBhaasha : Udbhav	
6.	AsamiyaBhaasha : Udbhav	
7.	AsamiyaBhaasha : Vikas	
8.	AsamiyaBhaasha : Vikas	
9.	AsamiyaBhaasha : Vikas	
10.	AsamiyaBhaasha : Vikas	
11.	Tutorial/ Discussion	
12.	Asamiya Sahitya : SaamaanyaParichaya -	
13.	Asamiya Sahitya : SaamaanyaParichaya -	
14.	Asamiya Sahitya : SaamaanyaParichaya -	
15.	Asamiya Sahitya : SaamaanyaParichaya -	
16.	Tutorial/ Discussion	
17.	Aadiyug,.	
18.	Aadiyug,	
19.	Tutorial/ Discussion	
20.	Vaishnav Yug,	

21. Vaishnav Yug,
22. Tutorial/ Discussion
23. Romantic Yug.
24. Romantic Yug.
25. Tutorial/ Discussion

Name of the Teacher- Dr. Pradeep Kumar Bharati

Course –Honours / Generic – Honours

Class/Semester- B. A. 5th Semester

Name of the Paper- Chhayavaad (DSE- 2)

Units Assigned- Unit -2 & Unit - 3

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Intoduction	
2.	Chhayaavaadi Kaviyon men Sooryakant Tripathi 'Nirala' ka Sthan	
3.	Chhayaavaadi Kaviyon men Sooryakant Tripathi 'Nirala' ka Sthan.	
4.	'Nirala' ki Kavita – Vasant Aaya- Vyaakhyaa,	
5.	Vasant Aaya- Vyaakhyaa,	
6.	Jaago fir Ek Baar- Vyaakhyaa,	
7.	Jaago fir Ek Baar- Vyaakhyaa,	
8.	Tutorial/ Discussion	
9.	Saneh Nirjhar Bah Gaya Hai - Vyaakhyaa,	
10.	Saneh Nirjhar Bah Gaya Hai - Vyaakhyaa,	
11.	Tutorial/ Discussion	
12.	Saroj Smriti - Vyaakhyaa,	
13.	Saroj Smriti - Vyaakhyaa,	
14.	Saroj Smriti - Vyaakhyaa,	
15.	Saroj Smriti - Vyaakhyaa,	
16.	Saroj Smriti - Vyaakhyaa,	
17.	Saroj Smriti - Vyaakhyaa,	

18. Question & Answer
19. Question & Answer
20. Question & Answer
21. Question & Answer
22. Tutorial/ Discussion
23. Chhayaavaadi Kaviyon men Sumitranandan Pant ka Sthan,
24. Chhayaavaadi Kaviyon men Sumitranandan Pant ka Sthan.
25. Pant ke Kavya Sahitya ka SankshiptPrichaya,
26. Pant ke Kavya Sahitya ka SankshiptPrichaya,
27. Pant ke Kavya Sahitya ka SankshiptPrichaya.
28. Pant ki Kavita – Taaj,
29. Tutorial/ Discussion
30. DrutJharo JagatkeJrinpatra,
31. DrutJharo Jagat keJrinpatra.
32. Tutorial/ Discussion
33. Bharat Mata,
34. Bharat Mata.
35. Tutorial/ Discussion

DIGBOI COLLEGE, DIGBOI
Course Plan (Session June- December 2020)
Department Of Hindi

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (Ritikaal Tak), C-1

Units Assigned- Unit – 1 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Hindi Sahitya Ka Kaal Vibhajan	
3.	Hindi Sahitya Ka Kaal Vibhajan	
4.	Hindi Sahitya Ka Kaal Vibhajan	
5.	Aadikaal Ke Naamkaran Ki Samasya,	
6.	Aadikaal Ke Naamkaran Ki Samasya,	
7.	Aadikaal ki Pravritiya/ Visheshatayen	
8.	Aadikaal ki Pravritiya/ Visheshatayen	
9.	Aadikaal ki Prishthabhoomi - Rajnaitik	
10.	Aadikaal ki Prishthabhoomi - Samajik	
11.	Aadikaal ki Prishthabhoomi – Sanskritik & Dharmik	
12.	Aadikaal ki Sahitik Dharayen- Sidha Sahitya	
13.	Aadikaal ki Sahitik Dharayen- Nath Sahitya	
14.	Aadikaal ki Sahitik Dharayen- Jain Sahitya	
15.	Aadikaal ki Sahitik Dharayen- Raso Sahitya,	
16.	Aadikaal ki Sahitik Dharayen- Laukik Sahitya	
17.	Raso Shanda ki vyutpati	
18.	Raso Sahitya ka Parichaya	
19.	Prithviraj Raso	
20.	Bisaldev Raso, Sandesh Rasak,	
21.	Dingal & Pingal	
22.	Tutorial / Discussion	
23.	RitiKaal Namkaran	
24.	Ritikaal ka Naamkaran,	
25.	Ritikaal ka Naamkaran,	

26. Ritikaaleen Paristhitiyan,
27. Ritikaaleen Paristhitiyan,
28. Ritikaaleen Paristhitiyan.
29. Ritikaaleen Smanya Pravritiyan/ Visheshtaye,
30. Ritikaaleen Smanya Pravritiyan/ Visheshtaye,
31. Ritikaaleen Vividh Kaavyadhaaraayen : (Ritibaddha,).
32. Ritikaaleen Vividh Kaavyadhaaraayen-
33. Ritikaaleen Vividh Kaavyadhaaraayen- Ritisiddha,
34. Ritikaaleen Vividh Kaavyadhaaraayen- Ritimukta
35. Ritimukta Kavya dhara Ki Visheshatayen
36. Ghananand Ka Parichaya
37. RitiSiddha Kavya dhara Ki Visheshatayen
38. Bihari Ka Parichaya
39. Tutorial / Discussion

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (Aadhunik Kaal), C-2

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Aadhunik Kaal – Naamkaran,	
3.	Aadhunik Kaaleen Prishthabhoomi – Rajnaitik,	
4.	Aadhunik Kaaleen Prishthabhoomi – Samajik , Saanskritik,	
5.	Hindi Navjaagaran men Vividha Sansthaaon kaa Yogdaan,	
6.	Isayee Missionaries ka yogdan,	

7. Thiyoshaphikal Society ka parichay,
8. Hindi Padya Sahitya kaa Vikas – Pramukha Kaviyon Parichay,
9. Unke Kaavyadhaaraaon kaa Saamaanya Parichay,
10. Bharatenduyug ki Visheshatayen,
11. Bharatenduyug ki Visheshatayen,
12. Bharatendu ka Parichaya,
13. Tutorial / Discussion
14. Dwiveedi Yug - Prishthbhoomi,
15. Dwiveedi Yug - Prishthbhoomi,
16. Dwiveedi Yug - Prishthbhoomi,
17. Dwiveedi Yug ki Visheshata,
18. Dwiveedi Yug ki Visheshata,
19. Sarswati Patrika
20. Mahavir Prasad Dwivedi ka Parichaya
21. Tutorial / Discussion
22. Chhayavaad ki Prishthabhoomi
23. Chhayavaad shabda ki vyuyupatti
24. Chhayavaad ki Visheshata,
25. Chhayavaad ki Visheshata,
26. Chhayavaad, Ke Stambha Kavi Jayshankar Prasad, Mahadevi Verma,
27. Chhayavaad Ke Stambha Kavi Nirala and Pant, ,
28. Pragatyaad ki Prishthabhoomi,
29. Pragatyaad ki Prishthabhoomi,
30. Pragatyaad ki Visheshata,
31. Pragatyaad ki Visheshata,
32. Prayogvaad ki Prishthabhoomi,
33. Prayogvaad ki Visheshata,
34. Prayogvaad ki Visheshata,

35. Prayogvaad Aur Agyeya,
36. Tarsaptak,
37. Nayee Kavita ki Parichaya,
38. Nayee Kavita ki Visheshta,
39. Nayee Kavita ki Visheshta,
40. Samkaaleen Kavita Parichaya
41. Samkaaleen Kavita Visheshata,
42. Samkaaleen Kavita Visheshata,
43. Tutorial / Discussion.

Name of the Teacher- Dr. Anuradha Kumari Sahu
 Course –Honours / Generic – Honours
 Class/Semester- B.A. 3rd Semester
 Name of the Paper- Chhayaavaadottar Kavita (C-5)
 Units Assigned- Unit – 3 & Unit - 4
 Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Sachchidanand Heeraanand Vaatsyaayan ‘Agyeya’ -	
3.	1. Baavara Aheri – Vyaakhyaa,	
4.	Baavara Aheri – Vyaakhyaa	
5.	2. Saanp ke Prati – Vyaakhyaa,	
6.	3 Hamaradesh - Vyaakhyaa	
7.	Kavyagat Visheshata	
8.	Bhawani Prasad Mishra-	
9.	1. Luhar Se-- Vyaakhyaa	
10.	2. Geet Farosh -- Vyaakhyaa	
11.	Geet Farosh -- Vyaakhyaa	
12.	Kavyagat Visheshata	
13.	Tutorial / Discussion	
14.	Srveshwar Dayaal Saxena -	
15.	1. Suhagin ka Geet – Vyaakhyaa.	
16.	2. Vivashataa – Vyaakhyaa,	
17.	Kavyagat Visheshata	
18.	Tutorial / Discussion	
19.	Girija Kumar Mathur – Sahityik Parichay	
20.	1. Pandrah August – Vyaakhyaa,	
21.	Pandrah August – Vyaakhyaa,	

22. 2. Raat Hemant Kee – Vyaakhyaa,
23. Kavyagat Visheshata,
24. Tutorial / Discussion.
25. Overall Revision

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester - B.A. 3rd Semester

Name of the Paper - Bhaaratiya KaavyaShaastra (C-6)

Units Assigned - Unit -3 & Unit - 4

Marks Assigned - 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Dhwani Siddhaant – Dhwani ki Awadhaarana,	
3.	Dhwani Siddhaant – Dhwani ki Paribhasha ,	
4.	Dhwani Siddhaant – Dhwani ki Pribhasha,	
5.	Dhwani ka Vargikaran.	
6.	Dhwani ka Vargikaran,	
7.	Dhwani ka Vargikaran,	
8.	Riti Siddhaant – Riti ki Awadhaarana,	
9.	Riti Siddhaant – Riti ki Awadhaarana	
10.	Riti Siddhaant – Vargikaran	
11.	Riti Siddhaant – Vargikaran	
12.	Riti aur Gun, Riti ke Bhed	
13.	Riti aur Gun, Riti ke Bhed	
14.	Tutorial / Discussion	
15.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
16.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
17.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
18.	Vakrokti ke Prakar,	
19.	Vakrokti ke Prakar,	
20.	Tutorial / Discussion	

21. Auchitya Siddhant – Auchitya ki Awadhaarana,
22. Auchitya Siddhant – Auchitya ki Awadhaarana,
23. Auchitya Siddhant – Auchitya ki Awadhaarana,
24. Auchitya Siddhant - Prakar
25. Auchitya Siddhant – Prakar
26. Auchitya Siddhant - Prakar
27. Tutorial / Discussion

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester-B.A. 3rd Semester

Name of the Paper- Pashchaatya Kaavyashashtra ewam Naii Samiksha (C-7)

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned- 20+20

	Topic/ Unit	Remarks
Class		
1.	Introduction	
2.	Pleto- Kavya Sambandhi Maanyataayen- Parichay	
3.	Pleto- Kavya Sambandhi Maanyataayen	
4.	Aadarshwaad	
5.	Aadarshwaad	
6.	Pratyayawaad	
7.	Pratyayawaad	
8.	Tutorial / Discussion.	
9.	Arastoo – Parichay	
10.	Arastoo – Parichay	
11.	Arastoo – AnuKriti Siddhant,	
12.	Arastoo – AnuKriti Siddhant,	

13. Arastoo – Virechan Siddhant,
14. Arastoo – Virechan Siddhant,
15. Tutorial / Discussion.
16. Launjaainas – Kavya men Uddat ki Awadhaarana
17. Launjaainas – Kavya men Uddat ki Awadhaarana
18. Launjaainas – Kavya men Uddat ki Awadhaarana
19. Tutorial / Discussion
20. Wordsworth – Kavya Bhasha ka Siddhant
21. Wordsworth – Kavya Bhasha ka Siddhant
22. Wordsworth – Kavya Bhasha ka Siddhant
23. Wordsworth – Kavya Bhasha ka Siddhant
24. Tutorial / Discussion.
25. Kolrij – Kalpana aur fantasy
26. Kolrij – Kalpana aur fantasy
27. Kolrij – Kalpana aur fantasy
28. Kolrij – Kalpana aur fantasy
29. Tutorial / Discussion.

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Major

Class/Semester- B. A. 5th Semester

Name of the Paper- Aalochana (501)

Units Assigned- Unit -3 & Unit - 4

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Triveni ke Aadhar par Aacharya Ramchandra Shukla Ki Aalochanatmak Drishti,	

3. Triveni ke Aadhar par Acharya Ramchandra Shukla Ki Aalochanatmak Drishti,
4. Triveni – Jayasi,
5. Triveni – Jayasi,
6. Triveni – Jayasi,
7. Triveni – Soordas,
8. Triveni – Soordas,
9. Triveni – Soordas,
10. Triveni – Soordas,
11. Triveni – Goswami Tulasi Das,
12. Triveni – Goswami Tulasi Das,
13. Triveni – Goswami Tulasi Das,
14. Triveni – Goswami Tulasi Das,
15. Question & Answer
16. Discussion
17. Pleto- Kavya Sambandhi Maanyataayen- Parichay
18. Pleto- Kavya Sambandhi Maanyataayen
19. Aadarshwaad
20. Aadarshwaad
21. Pratyayawaad
22. Pratyayawaad
23. Tutorial / Discussion.
24. Arastoo – Parichay,
25. Arastoo – AnuKriti Siddhant,
26. Arastoo – AnuKriti Siddhant,
27. Arastoo – Virechan Siddhant,
28. Arastoo – Virechan Siddhant,
29. I. A. Richard – Parichay,

30. I. A. Richard – Mulya Siddhant,
31. I. A. Richard – Mulya Siddhant
32. I. A. Richard – Sampreshan Siddhant,
33. I. A. Richard – Sampreshan Siddhant,
34. Discussion.

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Major

Class/Semester- B. A. 5th Semester

Name of the Paper- Asamiya Sahitya Ka Parichayaatmak Itihas (502)

Units Assigned- Unit -2 & Unit - 3

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Asamiya Kavita :	
3.	Kaveen Phokan : Parichay,	
4.	Durneeti - Vyaakhya,	
5.	Durneeti - Vyaakhya,	
6.	Jyoti Prasad Agarawaalaa – Parichay,	
7.	Tere Mere Aalok Yatra - Vyaakhya,	
8.	Tere Mere Aalok Yatra - Vyaakhya,	
9.	Tere Mere Aalok Yatra - Vyaakhya,	
10.	Tere Mere Aalok Yatra - Vyaakhya,	
11.	Devkant Barua : Parichay,	
12.	Saagar Dekha Hai - Vyaakhya,	
13.	Saagar Dekha Hai - Vyaakhya,	

14. Question & Answer,
15. Question & Answer,
16. Question & Answer,
17. Discussion
18. Asamiya Kahani : Parichay,
19. Dr. Nagen Saikia –Parichay,
20. Dr. Nagen Saikia – Kahani Kala,
21. Andhere Men Apana Chehara Sangrah Par Charcha,
22. Andhere Men Apana Chehara – Kahani,
23. Andhere Men Apana Chehara – Kahani,
24. Andhere Men Apana Chehara – Kahani,
25. Andhere Men Apana Chehara – Kahani,
26. Andhere Men Apana Chehara – Kahani Patra Yojana,
27. Andhere Men Apana Chehara – Kahani- Kala ke Tatwa ki Samiksha,
28. Yauvan – Kahani,
29. Yauvan – Kahani,
30. Yauvan – Kahani,
31. Yauvan – Kahani Patra Yojana,
32. Aakhari Intajaar– Kahani, Kahani Patra Yojana,
33. Aakhari Intajaar– Kahani, Kahani Patra Yojana,
34. Aakhari Intajaar– Kahani, Kahani Patra Yojana,
35. Aakhari Intajaar– Kahani, Kahani Patra Yojana,
36. Aakhari Intajaar– Kahani Patra Yojana,
37. Andhere Men Apana Chehara, Yauvan, Aakhari Intajaar– Kahani ki Vyaakhyaa
38. Discussion.

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Major

Class/Semester- B. A. 5th Semester

Name of the Paper- Prayojanmoolak Hindi (503)

Units Assigned- Unit -1 & Unit - 2

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Hindi Bhasha ka Swaroop,	
3.	Maukhik Bhasha, Likhit Bhasha	
4.	Lipi Se Abhipray	
5.	Devnagari lipi Ka Naamkaran,	
6.	Devnagari Lipi Ki Visheshata,	
7.	Vartani Ka Roop,	
8.	Vartani Ka Roop,	
9.	Hindi ke Vibhinna Roop,	
10.	Sarjanatamak Bhasha,	
11.	Sanchar Bhasha,	
12.	Rajbhasha,	
13.	Madhyam Bhasha,	
14.	Maatri Bhasha,	
15.	Discussion.	
16.	Prayojanmoolak Hindi – Abhipraya,	
17.	Prayojanmoolak Hindi –Parivyaapti,	
18.	Prayojanmoolak Hindi ki Prayuktiyan,	
19.	Prayojanmoolak Hindi ki Prayuktiyan,	

20. Prayojanmoolak Hindi ki Prayuktiyan,
21. Prayojanmoolak Hindi ki Prayogaatmak Kshetra,
22. Prayojanmoolak Hindi ki Prayogaatmak Kshetra,
23. Prayojanmoolak Hindi ki Prayogaatmak Kshetra,
24. Prayojanmoolak Hindi Tatha Samaanya Bhasha men Antar,
25. Prayojanmoolak Hindi Tatha Samaanya Bhasha men Antar,
26. Prayojanmoolak Hindi Tatha Samaanya Bhasha men Antar,
27. Discussion.

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Major

Class/Semester- B. A. 5th Semester

Name of the Paper- Sanchar Madhyam (504)

Units Assigned- Unit -1 & Unit - 2

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Madhyopayogi Lekhan ka Swaroop,	
2.	Madhyopayogi Lekhan ke Prakar,	
3.	Madhyopayogi Lekhan ke Prakar,	
4.	Hindi Madhyam Lekhan ka Sankshipt Itihas,	
5.	Hindi Madhyam Lekhan ka Sankshipt Itihas,	
6.	Hindi Madhyam Lekhan ka Sankshipt Itihas,	
7.	Radio Natak ki Pravidhi,	
8.	Radio Natak ki Pravidhi,	
9.	Radio Natak ke Bhed,	
10.	Radio Natak ke Bhed,	

11. Radio Dharawahik,
12. Radio Roopantar,
13. Radio Roopak,
14. Rang Natak
15. Pathya Natak,
16. Radio Natak, Rang Natak aur Pathya Natak Men Antar,
17. Radio Natak, Rang Natak aur Pathya Natak Men Antar,
18. Discussion.
19. Television Parichay,
20. Television Natak ki Taknik,
21. Television Natak ki Taknik,
22. Tele Drama,
23. Tele Flim,
24. T.V. Dharawahik,
25. Tele Drama, Tele Flim aur T.V. Dharawahik Men Saamy- Vaishmaya.
26. Discussion.
27. Discussion.

DIGBOI COLLEGE, DIGBOI
Course Plan (Session June- December 2020)
Department Of Hindi

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (Ritikaal Tak), C-1

Units Assigned- Unit – 1 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Hindi Sahitya Ka Kaal Vibhajan	
3.	Hindi Sahitya Ka Kaal Vibhajan	
4.	Hindi Sahitya Ka Kaal Vibhajan	
5.	Aadikaal Ke Naamkaran Ki Samasya,	
6.	Aadikaal Ke Naamkaran Ki Samasya,	
7.	Aadikaal ki Pravritiya/ Visheshatayen	
8.	Aadikaal ki Pravritiya/ Visheshatayen	
9.	Aadikaal ki Prishthabhoomi - Rajnaitik	
10.	Aadikaal ki Prishthabhoomi - Samajik	
11.	Aadikaal ki Prishthabhoomi – Sanskritik & Dharmik	
12.	Aadikaal ki Sahitik Dharayen- Sidha Sahitya	
13.	Aadikaal ki Sahitik Dharayen- Nath Sahitya	
14.	Aadikaal ki Sahitik Dharayen- Jain Sahitya	
15.	Aadikaal ki Sahitik Dharayen- Raso Sahitya,	
16.	Aadikaal ki Sahitik Dharayen- Laukik Sahitya	
17.	Raso Shanda ki vyutpati	
18.	Raso Sahitya ka Parichaya	
19.	Prithviraj Raso	
20.	Bisaldev Raso, Sandesh Rasak,	
21.	Dingal & Pingal	
22.	Tutorial / Discussion	
23.	RitiKaal Namkaran	
24.	Ritikaal ka Naamkaran,	
25.	Ritikaal ka Naamkaran,	
26.	Ritikaaleen Paristhitiyan,	
27.	Ritikaaleen Paristhitiyan,	
28.	Ritikaaleen Paristhitiyan.	
29.	Ritikaaleen Smanya Pravritiyan/ Visheshataye,	
30.	Ritikaaleen Smanya Pravritiyan/ Visheshataye,	
31.	Ritikaaleen Vividh Kaavyadhaaraayen : (Ritibaddha,).	
32.	Ritikaaleen Vividh Kaavyadhaaraayen-	
33.	Ritikaaleen Vividh Kaavyadhaaraayen- Ritisiddha,	
34.	Ritikaaleen Vividh Kaavyadhaaraayen- Ritimukta	
35.	Ritimukta Kavya dhara Ki Visheshatayen	
36.	Ghananand Ka Parichaya	
37.	RitiSiddha Kavya dhara Ki Visheshatayen	
38.	Bihari Ka Parichaya	
39.	Tutorial / Discussion	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (Aadhunika Kaal), C-2

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Aadhunik Kaal – Naamkaran,	
3.	Aadhunik Kaaleen Prishthabhoomi – Rajnaitik,	
4.	Aadhunik Kaaleen Prishthabhoomi – Samajik, , Saanskritik,	
5.	Hindi Navjaagaran men Vividha Sansthaanon kaa Yogdaan,	
6.	Isayee Missionaries ka yogdan,	
7.	Thiyoshaphikal Society ka parichay,	
8.	Hindi Padya Sahitya kaa Vikas – Pramukha Kaviyon Parichay,	
9.	Unke Kaavyadhaaraanon kaa Saamaanya Parichay,	
10.	Bharatenduyug ki Visheshatayen,	
11.	Bharatenduyug ki Visheshatayen,	
12.	Bharatendu ka Parichaya,	
13.	Tutorial / Discussion	
14.	Dwivedi Yug - Prishthabhoomi,	
15.	Dwivedi Yug - Prishthabhoomi,	
16.	Dwivedi Yug - Prishthabhoomi,	
17.	Dwivedi Yug ki Visheshata,	
18.	Dwivedi Yug ki Visheshata,	
19.	Sarswati Patrika	
20.	Mahavir Prasad Dwivedi ka Parichaya	
21.	Tutorial / Discussion	
22.	Chhayavaad ki Prishthabhoomi	
23.	Chhayavaad shabda ki vyuyupatti	
24.	Chhayavaad ki Visheshata,	
25.	Chhayavaad ki Visheshata,	
26.	Chhayavaad, Ke Stambha Kavi Jayshankar Prasad, Mahadevi Verma,	
27.	Chhayavaad Ke Stambha Kavi Nirala and Pant, ,	
28.	Pragativaad ki Prishthabhoomi,	
29.	Pragativaad ki Prishthabhoomi,	
30.	Pragativaad ki Visheshata,	
31.	Pragativaad ki Visheshata,	
32.	Prayogvaad ki Prishthabhoomi,	
33.	Prayogvaad ki Visheshata,	
34.	Prayogvaad ki Visheshata,	
35.	Prayogvaad Aur Agyeya,	
36.	Tarsaptak,	
37.	Nayee Kavita ki Parichaya,	
38.	Nayee Kavita ki Visheshata,	
39.	Nayee Kavita ki Visheshata,	
40.	Samkaaleen Kavita Parichaya	

41.	Samkaaleen Kavita Visheshata,	
42.	Samkaaleen Kavita Visheshata,	
43.	Tutorial / Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B.A. 3rd Semester

Name of the Paper- Chhayaavaadottar Kavita (C-5)

Units Assigned- Unit – 3 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Sachchidanand Heeraanand Vaatsyaayan ‘Agyeya’-	
3.	1. Baavara Aheri – Vyaakhyaa,	
4.	Baavara Aheri – Vyaakhyaa	
5.	2. Saanp ke Prati – Vyaakhyaa,	
6.	3 Hamaradesh - Vyaakhyaa	
7.	Kavyagat Visheshata	
8.	Bhawani Prasad Mishra-	
9.	1. Luhar Se-- Vyaakhyaa	
10.	2. Geet Farosh -- Vyaakhyaa	
11.	Geet Farosh -- Vyaakhyaa	
12.	Kavyagat Visheshata	
13.	Tutorial / Discussion	
14.	Srveshwar Dayaal Saksena -	
15.	1. Suhagin ka Geet – Vyaakhyaa.	
16.	2. Vivashataa – Vyaakhyaa,	
17.	Kavyagat Visheshata	
18.	Tutorial / Discussion	
19.	Girija Kumar Mathur – Sahityik Parichay	
20.	1. Pandrah August – Vyaakhyaa,	
21.	Pandrah August – Vyaakhyaa,	
22.	2. Raat Hemant Kee – Vyaakhyaa,	
23.	Kavyagat Visheshata,	
24.	Tutorial / Discussion.	
25.	Overall Revision	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester - B.A. 3rd Semester

Name of the Paper - Bhaaratiya KaavyaShaastra (C-6)

Units Assigned - Unit -3 & Unit - 4

Marks Assigned - 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Dhwani Siddhaant – Dhwani ki Awadhaarana,	
3.	Dhwani Siddhaant – Dhwani ki Paribhasha ,	
4.	Dhwani Siddhaant – Dhwani ki Pribhasha,	
5.	Dhwani ka Vargikaran.	
6.	Dhwani ka Vargikaran,	
7.	Dhwani ka Vargikaran,	
8.	Riti Siddhaant – Riti ki Awadhaarana,	
9.	Riti Siddhaant – Riti ki Awadhaarana	
10.	Riti Siddhaant – Vargikaran	
11.	Riti Siddhaant – Vargikaran	
12.	Riti aur Gun, Riti ke Bhed	
13.	Riti aur Gun, Riti ke Bhed	
14.	Tutorial / Discussion	
15.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
16.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
17.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
18.	Vakrokti ke Prakar,	
19.	Vakrokti ke Prakar,	
20.	Tutorial / Discussion	
21.	Auchitya Siddhant – Auchitya ki Awadhaarana,	
22.	Auchitya Siddhant – Auchitya ki Awadhaarana,	
23.	Auchitya Siddhant – Auchitya ki Awadhaarana,	
24.	Auchitya Siddhant - Prakar	
25.	Auchitya Siddhant – Prakar	
26.	Auchitya Siddhant - Prakar	
27.	Tutorial / Discussion	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester-B.A. 3rd Semester

Name of the Paper- Pashchaatya Kaavyashashtra ewam Naii Samiksha (C-7)

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Pleto- Kavya Sambandhi Maanyataayen- Parichay	
3.	Pleto- Kavya Sambandhi Maanyataayen	
4.	Aadarshwaad	
5.	Aadarshwaad	
6.	Pratyayawaad	
7.	Pratyayawaad	
8.	Tutorial / Discussion.	
9.	Arastoo – Parichay	
10.	Arastoo – Parichay	
11.	Arastoo – AnuKriti Siddhant,	
12.	Arastoo – AnuKriti Siddhant,	
13.	Arastoo – Virechan Siddhant,	
14.	Arastoo – Virechan Siddhant,	
15.	Tutorial / Discussion.	
16.	Launjaainas – Kavya men Uddat ki Awadhaarana	
17.	Launjaainas – Kavya men Uddat ki Awadhaarana	
18.	Launjaainas – Kavya men Uddat ki Awadhaarana	
19.	Tutorial / Discussion	
20.	Wordsworth – Kavya Bhasha ka Siddhant	
21.	Wordsworth – Kavya Bhasha ka Siddhant	
22.	Wordsworth – Kavya Bhasha ka Siddhant	
23.	Wordsworth – Kavya Bhasha ka Siddhant	
24.	Tutorial / Discussion.	
25.	Kolrij – Kalpana aur fantasy	
26.	Kolrij – Kalpana aur fantasy	
27.	Kolrij – Kalpana aur fantasy	
28.	Kolrij – Kalpana aur fantasy	
29.	Tutorial / Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Major

Class/Semester- B. A. 5th Semester

Name of the Paper- Aalochana (501)

Units Assigned- Unit -3 & Unit - 4

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Triveni ke Aadhar par Acharya Ramchandra Shukla Ki Aalochanatmak Drishti,	
3.	Triveni ke Aadhar par Acharya Ramchandra Shukla Ki Aalochanatmak Drishti,	
4.	Triveni – Jayasi,	
5.	Triveni – Jayasi,	
6.	Triveni – Jayasi,	
7.	Triveni – Soordas,	
8.	Triveni – Soordas,	
9.	Triveni – Soordas,	
10.	Triveni – Soordas,	
11.	Triveni – Goswami Tulasi Das,	
12.	Triveni – Goswami Tulasi Das,	
13.	Triveni – Goswami Tulasi Das,	
14.	Triveni – Goswami Tulasi Das,	
15.	Question & Answer	
16.	Discussion	
17.	Pleto- Kavya Sambandhi Maanyataayen- Parichay	
18.	Pleto- Kavya Sambandhi Maanyataayen	
19.	Aadarshwaad	
20.	Aadarshwaad	
21.	Pratyayawaad	
22.	Pratyayawaad	
23.	Tutorial / Discussion.	
24.	Arastoo – Parichay,	
25.	Arastoo – AnuKriti Siddhant,	
26.	Arastoo – AnuKriti Siddhant,	
27.	Arastoo – Virechan Siddhant,	
28.	Arastoo – Virechan Siddhant,	
29.	I. A. Richard – Parichay,	
30.	I. A. Richard – Mulya Siddhant,	
31.	I. A. Richard – Mulya Siddhant	
32.	I. A. Richard – Sampreshan Siddhant,	
33.	I. A. Richard – Sampreshan Siddhant,	
34.	Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Major

Class/Semester- B. A. 5th Semester

Name of the Paper- Asamiya Sahitya Ka Parichayaatmak Itihas (502)

Units Assigned- Unit -2 & Unit - 3

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Asamiya Kavita :	
3.	Kaveen Phokan : Parichay,	
4.	Durneeti - Vyaakhya,	
5.	Durneeti - Vyaakhya,	
6.	Jyoti Prasad Agarawaalaa – Parichay,	
7.	Tere Mere Aalok Yatra - Vyaakhya,	
8.	Tere Mere Aalok Yatra - Vyaakhya,	
9.	Tere Mere Aalok Yatra - Vyaakhya,	
10.	Tere Mere Aalok Yatra - Vyaakhya,	
11.	Devkant Barua : Parichay,	
12.	Saagar Dekha Hai - Vyaakhya,	
13.	Saagar Dekha Hai - Vyaakhya,	
14.	Question & Answer,	
15.	Question & Answer,	
16.	Question & Answer,	
17.	Discussion	
18.	Asamiya Kahani : Parichay,	
19.	Dr. Nagen Saikia –Parichay,	
20.	Dr. Nagen Saikia – Kahani Kala,	
21.	Andhere Men Apana Chehara Sangrah Par Charcha,	
22.	Andhere Men Apana Chehara – Kahani,	
23.	Andhere Men Apana Chehara – Kahani,	
24.	Andhere Men Apana Chehara – Kahani,	
25.	Andhere Men Apana Chehara – Kahani,	
26.	Andhere Men Apana Chehara – Kahani Patra Yojana,	
27.	Andhere Men Apana Chehara – Kahani- Kala ke Tatwa ki Samiksha,	
28.	Yauvan – Kahani,	
29.	Yauvan – Kahani,	
30.	Yauvan – Kahani,	
31.	Yauvan – Kahani Patra Yojana,	
32.	Aakhari Intajaar– Kahani, Kahani Patra Yojana,	
33.	Aakhari Intajaar– Kahani, Kahani Patra Yojana,	
34.	Aakhari Intajaar– Kahani, Kahani Patra Yojana,	
35.	Aakhari Intajaar– Kahani, Kahani Patra Yojana,	
36.	Aakhari Intajaar– Kahani Patra Yojana,	
37.	Andhere Men Apana Chehara, Yauvan, Aakhari Intajaar– Kahani ki Vyaakhya	
38.	Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Major

Class/Semester- B. A. 5th Semester

Name of the Paper- Prayojanmoolak Hindi (503)

Units Assigned- Unit -1 & Unit - 2

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Hindi Bhasha ka Swaroop,	
3.	Maukhik Bhasha, Likhit Bhasha	
4.	Lipi Se Abhipray	
5.	Devnagari lipi Ka Naamkaran,	
6.	Devnagari Lipi Ki Visheshata,	
7.	Vartani Ka Roop,	
8.	Vartani Ka Roop,	
9.	Hindi ke Vibhinna Roop,	
10.	Sarjanatamak Bhasha,	
11.	Sanchar Bhasha,	
12.	Rajbhasha,	
13.	Madhyam Bhasha,	
14.	Maatri Bhasha,	
15.	Discussion.	
16.	Prayojanmoolak Hindi – Abhipraya,	
17.	Prayojanmoolak Hindi –Parivyaapti,	
18.	Prayojanmoolak Hindi ki Prayuktiyan,	
19.	Prayojanmoolak Hindi ki Prayuktiyan,	
20.	Prayojanmoolak Hindi ki Prayuktiyan,	
21.	Prayojanmoolak Hindi ki Prayogaatmak Kshetra,	
22.	Prayojanmoolak Hindi ki Prayogaatmak Kshetra,	
23.	Prayojanmoolak Hindi ki Prayogaatmak Kshetra,	
24.	Prayojanmoolak Hindi Tatha Samaanya Bhasha men Antar,	
25.	Prayojanmoolak Hindi Tatha Samaanya Bhasha men Antar,	
26.	Prayojanmoolak Hindi Tatha Samaanya Bhasha men Antar,	
27.	Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Major

Class/Semester- B. A. 5th Semester

Name of the Paper- Sanchar Madhyam (504)

Units Assigned- Unit -1 & Unit - 2

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Madhyopayogi Lekhan ka Swaroop,	
2.	Madhyopayogi Lekhan ke Prakar,	
3.	Madhyopayogi Lekhan ke Prakar,	
4.	Hindi Madhyam Lekhan ka Sankshipt Itihas,	
5.	Hindi Madhyam Lekhan ka Sankshipt Itihas,	
6.	Hindi Madhyam Lekhan ka Sankshipt Itihas,	
7.	Radio Natak ki Pravidhi,	
8.	Radio Natak ki Pravidhi,	
9.	Radio Natak ke Bhed,	
10.	Radio Natak ke Bhed,	
11.	Radio Dharawahik,	
12.	Radio Roopantar,	
13.	Radio Roopak,	
14.	Rang Natak	
15.	Pathya Natak,	
16.	Radio Natak, Rang Natak aur Pathya Natak Men Antar,	
17.	Radio Natak, Rang Natak aur Pathya Natak Men Antar,	
18.	Discussion.	
19.	Television Parichay,	
20.	Television Natak ki Taknik,	
21.	Television Natak ki Taknik,	
22.	Tele Drama,	
23.	Tele Flim,	
24.	T.V. Dharawahik,	
25.	Tele Drama, Tele Flim aur T.V. Dharawahik Men Saamya- Vaishmaya.	
26.	Discussion.	
27.	Discussion.	

DIGBOI COLLEGE, DIGBOI

Course Plan (Session June- December 2021)

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (Ritikaal Tak), C-1

Units Assigned- Unit – 1 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Hindi Sahitya Ka Kaal Vibhajan	
3.	Hindi Sahitya Ka Kaal Vibhajan	
4.	Hindi Sahitya Ka Kaal Vibhajan	
5.	Aadikaal Ke Naamkaran Ki Samasya,	
6.	Aadikaal Ke Naamkaran Ki Samasya,	
7.	Aadikaal ki Pravritiya/ Visheshatayen	
8.	Aadikaal ki Pravritiya/ Visheshatayen	
9.	Aadikaal ki Prishthabhoomi - Rajnaitik	
10.	Aadikaal ki Prishthabhoomi - Samajik	
11.	Aadikaal ki Prishthabhoomi – Sanskritik & Dharmik	
12.	Aadikaal ki Sahitik Dharayen- Sidha Sahitya	
13.	Aadikaal ki Sahitik Dharayen- Nath Sahitya	
14.	Aadikaal ki Sahitik Dharayen- Jain Sahitya	
15.	Aadikaal ki Sahitik Dharayen- Raso Sahitya,	
16.	Aadikaal ki Sahitik Dharayen- Laukik Sahitya	
17.	Raso Shanda ki vyutpati	
18.	Raso Sahitya ka Parichaya	
19.	Prithviraj Raso	
20.	Bisaldev Raso, Sandesh Rasak,	
21.	Dingal & Pingal	
22.	Tutorial / Discussion	
23.	RitiKaal Namkaran	
24.	Ritikaal ka Naamkaran,	
25.	Ritikaal ka Naamkaran,	
26.	Ritikaaleen Paristhitiyan,	
27.	Ritikaaleen Paristhitiyan,	
28.	Ritikaaleen Paristhitiyan.	
29.	Ritikaaleen Smanya Pravritiyan/ Visheshataye,	
30.	Ritikaaleen Smanya Pravritiyan/ Visheshataye,	
31.	Ritikaaleen Vividh Kaavyadhaaraayen : (Ritibaddha,).	
32.	Ritikaaleen Vividh Kaavyadhaaraayen-	
33.	Ritikaaleen Vividh Kaavyadhaaraayen- Ritisiddha,	
34.	Ritikaaleen Vividh Kaavyadhaaraayen- Ritimukta	
35.	Ritimukta Kavya dhara Ki Visheshatayen	
36.	Ghananand Ka Parichaya	
37.	RitiSiddha Kavya dhara Ki Visheshatayen	
38.	Bihari Ka Parichaya	
39.	Tutorial / Discussion	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B.A. 1st Semester

Name of the Paper- Hindi Sahitya Ka Itihas: (Aadhunik Kaal), C-2

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Aadhunik Kaal – Naamkaran,	
3.	Aadhunik Kaaleen Prishthabhoomi – Rajnaitik,	
4.	Aadhunik Kaaleen Prishthabhoomi – Samajik, , Saanskritik,	
5.	Hindi Navjaagaran men Vividha Sansthaaon kaa Yogdaan,	
6.	Isayee Missionaries ka yogdan,	
7.	Thiyoshaphikal Society ka parichay,	
8.	Hindi Padya Sahitya kaa Vikas – Pramukha Kaviyon Parichay,	
9.	Unke Kaavyadhaaraaon kaa Saamaanya Parichay,	
10.	Bharatenduyug ki Visheshatayen,	
11.	Bharatenduyug ki Visheshatayen,	
12.	Bharatendu ka Parichaya,	
13.	Tutorial / Discussion	
14.	Dwivedi Yug - Prishthbhoomi,	
15.	Dwivedi Yug - Prishthbhoomi,	
16.	Dwivedi Yug - Prishthbhoomi,	
17.	Dwivedi Yug ki Visheshata,	
18.	Dwivedi Yug ki Visheshata,	
19.	Sarswati Patrika	
20.	Mahavir Prasad Dwivedi ka Parichaya	
21.	Tutorial / Discussion	
22.	Chhayavaad ki Prishthabhoomi	
23.	Chhayavaad shabda ki vyuyupatti	
24.	Chhayavaad ki Visheshata,	
25.	Chhayavaad ki Visheshata,	
26.	Chhayavaad, Ke Stambha Kavi Jayshankar Prasad, Mahadevi Verma,	
27.	Chhayavaad Ke Stambha Kavi Nirala and Pant, ,	
28.	Pragativaaad ki Prishthabhoomi,	
29.	Pragativaaad ki Prishthabhoomi,	
30.	Pragativaaad ki Visheshata,	
31.	Pragativaaad ki Visheshata,	
32.	Prayogvaad ki Prishthabhoomi,	
33.	Prayogvaad ki Visheshata,	
34.	Prayogvaad ki Visheshata,	
35.	Prayogvaad Aur Agyeya,	
36.	Tarsaptak,	
37.	Nayee Kavita ki Parichaya,	
38.	Nayee Kavita ki Visheshata,	
39.	Nayee Kavita ki Visheshata,	
40.	Samkaaleen Kavita Parichaya	

41.	Samkaaleen Kavita Visheshata,	
42.	Samkaaleen Kavita Visheshata,	
43.	Tutorial / Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B.A. 3rd Semester

Name of the Paper- Chhayaavaadottar Kavita (C-5)

Units Assigned- Unit – 3 & Unit - 4

Marks Assigned - 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Sachchidanand Heeraanand Vaatsyaayan ‘Agyeya’-	
3.	1. Baavara Aheri – Vyaakhyaa,	
4.	Baavara Aheri – Vyaakhyaa	
5.	2. Saanp ke Prati – Vyaakhyaa,	
6.	3 Hamaradesh - Vyaakhyaa	
7.	Kavyagat Visheshata	
8.	Bhawani Prasad Mishra-	
9.	1. Luhar Se-- Vyaakhyaa	
10.	2. Geet Farosh -- Vyaakhyaa	
11.	Geet Farosh -- Vyaakhyaa	
12.	Kavyagat Visheshata	
13.	Tutorial / Discussion	
14.	Srveshwar Dayal Saksena -	
15.	1. Suhagin ka Geet – Vyaakhyaa.	
16.	2. Vivashataa – Vyaakhyaa,	
17.	Kavyagat Visheshata	
18.	Tutorial / Discussion	
19.	Girija Kumar Mathur – Sahityik Parichay	
20.	1. Pandrah August – Vyaakhyaa,	
21.	Pandrah August – Vyaakhyaa,	
22.	2. Raat Hemant Kee – Vyaakhyaa,	
23.	Kavyagat Visheshata,	
24.	Tutorial / Discussion.	
25.	Overall Revision	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester - B.A. 3rd Semester

Name of the Paper - Bhaaratiya KaavyaShaastra (C-6)

Units Assigned - Unit -3 & Unit - 4

Marks Assigned - 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Dhwani Siddhaant – Dhwani ki Awadhaarana,	
3.	Dhwani Siddhaant – Dhwani ki Paribhasha ,	
4.	Dhwani Siddhaant – Dhwani ki Pribhasha,	
5.	Dhwani ka Vargikaran.	
6.	Dhwani ka Vargikaran,	
7.	Dhwani ka Vargikaran,	
8.	Riti Siddhaant – Riti ki Awadhaarana,	
9.	Riti Siddhaant – Riti ki Awadhaarana	
10.	Riti Siddhaant – Vargikaran	
11.	Riti Siddhaant – Vargikaran	
12.	Riti aur Gun, Riti ke Bhed	
13.	Riti aur Gun, Riti ke Bhed	
14.	Tutorial / Discussion	
15.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
16.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
17.	Vakrokti Siddhaant – Vakrokti ki Awadhaarana,	
18.	Vakrokti ke Prakar,	
19.	Vakrokti ke Prakar,	
20.	Tutorial / Discussion	
21.	Auchitya Siddhant – Auchitya ki Awadhaarana,	
22.	Auchitya Siddhant – Auchitya ki Awadhaarana,	
23.	Auchitya Siddhant – Auchitya ki Awadhaarana,	
24.	Auchitya Siddhant - Prakar	
25.	Auchitya Siddhant – Prakar	
26.	Auchitya Siddhant - Prakar	
27.	Tutorial / Discussion	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester-B.A. 3rd Semester

Name of the Paper- Pashchaatya Kaavyashashtra ewam Naii Samiksha (C-7)

Units Assigned- Unit – 1 & Unit - 2

Marks Assigned- 20+20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Pleto- Kavya Sambandhi Maanyataayen- Parichay	
3.	Pleto- Kavya Sambandhi Maanyataayen	
4.	Aadarshwaad	
5.	Aadarshwaad	
6.	Pratyayawaad	
7.	Pratyayawaad	
8.	Tutorial / Discussion.	
9.	Arastoo – Parichay	
10.	Arastoo – Parichay	
11.	Arastoo – AnuKriti Siddhant,	
12.	Arastoo – AnuKriti Siddhant,	
13.	Arastoo – Virechan Siddhant,	
14.	Arastoo – Virechan Siddhant,	
15.	Tutorial / Discussion.	
16.	Launjaainas – Kavya men Uddat ki Awadhaarana	
17.	Launjaainas – Kavya men Uddat ki Awadhaarana	
18.	Launjaainas – Kavya men Uddat ki Awadhaarana	
19.	Tutorial / Discussion	
20.	Wordsworth – Kavya Bhasha ka Siddhant	
21.	Wordsworth – Kavya Bhasha ka Siddhant	
22.	Wordsworth – Kavya Bhasha ka Siddhant	
23.	Wordsworth – Kavya Bhasha ka Siddhant	
24.	Tutorial / Discussion.	
25.	Kolrij – Kalpana aur fantasy	
26.	Kolrij – Kalpana aur fantasy	
27.	Kolrij – Kalpana aur fantasy	
28.	Kolrij – Kalpana aur fantasy	
29.	Tutorial / Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B. A. 5th Semester

Name of the Paper- Hindi Naatak ewam Ekanki (C-11)

Units Assigned- Unit -1 & Unit - 2

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Andher Nagari – Bharatendu Harashchad.	
3.	Andher Nagari – Explanation,.	
4.	Andher Nagari – Explanation ,	
5.	Andher Nagari – Explanation ,	
6.	Andher Nagari – Explanation ,	
7.	Andher Nagari – Explanation,	
8.	Andher Nagari – Question & Answer	
9.	Andher Nagari Natyakala Kala ke tatwa ki Samiksha	
10.	Andher Nagari Natyakala Kala ke tatwa ki Samiksha	
11.	Andher Nagari ke Patron ka Charitra – Chitran	
12.	Andher Nagari ke Patron ka Charitra – Chitran	
13.	Andher Nagari – Vyaakhya,	
14.	Andher Nagari – Vyaakhya,	
15.	Andher Nagari – Vyaakhya,	
16.	Tutorial/Discussion.	
17.	Skandagupt – Explanation Jayshankar Prasad.	
18.	Skandagupt – Explanation	
19.	Skandagupt – Explanation	
20.	Skandagupt – Explanation,	
21.	Skandagupt – Explanation,	
22.	Skandagupt – Explanation,	
23.	Skandagupt – Explanation,	
24.	Skandagupt – Explanation,	
25.	Skandagupt – Explanation,	
26.	Skandagupt – Explanation,	
27.	Skandagupt – Explanation,	
28.	Skandagupt – Kala ke tatwa ke Samiksha,	
29.	Skandagupt Natak ke Patron ka Charitra – Chitran,	
30.	Skandagupt Natak ke Patron ka Charitra – Chitran,	
31.	Skandagupt Natak – Vyaakhya,	
32.	Skandagupt Natak – Vyaakhya,	
33.	Skandagupt Natak – Question & Answer,	
34.	Tutorial/Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B. A. 5th Semester

Name of the Paper- Hindi Nibandha ewam Anya Gadya Vidhaayen (C-12)

Units Assigned- Unit -1 & Unit - 2

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Shivpoojan Sahay - Parichay,	
3.	Mahakavi Jayshankar Prasad- Explanation,	
4.	Mahakavi Jayshankar Prasad- Explanation,	
5.	Mahakavi Jayshankar Prasad- Question & Answer,	
6.	Mahakavi Jayshankar Prasad- Question & Answer,	
7.	Tutorial/Discussion.	
8.	Ramvriksha benipuri.	
9.	Rajiya – Explanation,	
10.	Rajiya – Explanation,	
11.	Rajiya – Explanation, - Parichay	
12.	Rajiya – Question & Answer,	
13.	Rajiya – Question & Answer,	
14.	Rajiya – Question & Answer,	
15.	Tutorial/Discussion.	
16.	Vishnukaant Shastri- Parichaya	
17.	Ye hai Professor Shashaank – Explanation,	
18.	Ye hai Professor Shashaank – Explanation,	
19.	Ye hai Professor Shashaank – Explanation,	
20.	Ye hai Professor Shashaank – Question & Answer,	
21.	Ye hai Professor Shashaank – Question & Answer,	
22.	Ye hai Professor Shashaank – Question & Answer,	
23.	Tutorial/Discussion.	
24.	Dr. Nagendra – parichay,	
25.	Dada Swargiya Baalkrishna Sharma ‘Naveen’ – Explanation,	
26.	Dada Swargiya Baalkrishna Sharma ‘Naveen’ – Explanation,	
27.	Dada Swargiya Baalkrishna Sharma ‘Naveen’ – Explanation,	
28.	Dada Swargiya Baalkrishna Sharma ‘Naveen’ – Question & Answer,	
29.	Dada Swargiya Baalkrishna Sharma ‘Naveen’ – Question & Answer,	
30.	Dada Swargiya Baalkrishna Sharma ‘Naveen’ – Question & Answer,	
31.	Tutorial/Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B. A. 5th Semester

Name of the Paper- Asamiya Bhaasha ewam Sahitya (DSE-1)

Units Assigned- Unit -1 & Unit - 2

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Introduction	
2.	Asamiya Kavya :	
3.	Shankardev : Parichay,	
4.	1. Man Meri Ram Charanhi Laagu,- Vyaakhya,	
5.	Man Meri Ram Charanhi Laagu,- Vyaakhya,	
6.	2. Narayan Kaahe Bhakati Karo Tera,- Vyaakhya,	
7.	Narayan Kaahe Bhakati Karo Tera,- Vyaakhya,	
8.	Maadhavdev : Parichay,	
9.	1- Tejare Kamalapati ,- Vyaakhya,	
10.	Tejare Kamalapati ,- Vyaakhya,	
11.	2. Gopal Gowali Paarate Nache ,- Vyaakhya,	
12.	Gopal Gowali Paarate Nache ,- Vyaakhya,	
13.	Vargeet : Shankardev Ewam Maadhavdev ki Vargeet ki Visheshataa,	
14.	Tutotial/ Discussion	
15.	Chandrakumar Agarawaalaa – Parichay,	
16.	1. Manav Vandana – Vyaakhya,	
17.	2. Tejimaala – Vyaakhya,	
18.	Tejimaala – Vyaakhya.	
19.	Tejimaala Lokkatha Asamiya lok jeewan ke kis Yatharth ko Prastut..	
20.	Nalini Valadevi- Parichay.	
21.	Paramtrishna – Vyaakhya,	
22.	Paramtrishna – Vyaakhya,	
23.	Paramtrishna,	
24.	Paramtrishna,	
25.	2. Janambhoomi– Vyaakhya	
26.	Janambhoomi – Vyaakhya	
27.	Janambhoomi – Vyaakhya,	
28.	Janambhoomi -	
29.	Tutotial/ Discussion	
30.	Asamiya Kahani : Parichay,	
31.	Saiyad Abdul Malik –Parichay,	
32.	Maram Maram Lage – Kahani	
33.	Maram Maram Lage – Kahani	
34.	Maram Maram Lage – Kahani	
35.	Maram Maram Lage – Kahani Patra Yojana,	
36.	Maram Maram Lage – Kahani- Kala ke Tatwa ki Samiksha,	
37.	Maram Maram Lage – Kahani- Kala ke Tatwa ki Samiksha,	
38.	Maram Maram Lage – Kahani ki Vyaakhyaa	
39.	Maram Maram Lage – Kahani ki Vyaakhyaa	

40.	Tutotial/ Discussion	
41.	Gahawar – Bhawendra Nath Shaikia -Parichay.	
42.	Gahawar – Vishaleshan,	
43.	Gahawar – Vishaleshan,	
44.	Gahawar – Vishaleshan,	
45.	Gahawar – Question Answer,	
46.	Gahawar – Kala ke Tatwa ki Samiksha,	
47.	Gahawar – Kala ke Tatwa ki Samiksha,	
48.	Gahawar – Kahani Patra Yojana,	
49.	Gahawar –Kahani ki Vyaakhyaa,	
50.	Tutotial/ Discussion.	

Name of the Teacher- Dr. Anuradha Kumari Sahu

Course –Honours / Generic – Honours

Class/Semester- B. A. 5th Semester

Name of the Paper- Chhayavaad (DSE- 2)

Units Assigned- Unit -1 & Unit - 4

Marks Assigned- 20 + 20

Class	Topic/ Unit	Remarks
1.	Chhayavaad- Saamaanya Parichaya, Visheshataayen, Chhayaavaad ke Stambha Chaaron Kaviyon ka Parichay,	
2.	Jayshankar Prasad ka Vyaktitv ewam Krititw,	
3.	Jayshankar Prasad ki Kavita – Himaandri tung Se –Vyaakhya,	
4.	Himaandri tung Se –Vyaakhya,	
5.	Beete Vibhawari jag ree –Vyaakhya,	
6.	Beete Vibhawari jag ree –Vyaakhya,	
7.	Mere Navik –Vyaakhya,	
8.	Saundarya –Vyaakhya,	
9.	Kaun Tum! Sansriti-Jalnidhi Teer –Vyaakhya,	
10.	Kaun Tum! Sansriti-Jalnidhi Teer –Vyaakhya,	
11.	Kaun Tum! Sansriti-Jalnidhi Teer –Vyaakhya,	
12.	Kaun Tum! Sansriti-Jalnidhi Teer –Vyaakhya,	
13.	Kaun Tum! Sansriti-Jalnidhi Teer –Vyaakhya,	
14.	Kaun Tum! Sansriti-Jalnidhi Teer –Vyaakhya,	
15.	Question & Answer	
16.	Tutorial/ Discussion.	
17.	Chhayaavaadi Kaviyon men Mahadevi ka Sthan -	
18.	Mahadevi Verma : Aadhunik Meera	
19.	Mahadevi ki Kavita –	
20.	Jeewan Virah ka Jaljaat –Vyaakhya,	
21.	Jeewan Virah ka Jaljaat –Vyaakhya,	
22.	Madhur-Madhur Mere Deepak Jal –Vyaakhya,	
23.	Madhur-Madhur Mere Deepak Jal –Vyaakhya,	
24.	Mai Neer Bharee Dukha ki Badali –Vyaakhya,	
25.	Mai Neer Bharee Dukha ki Badali –Vyaakhya,	
26.	Panth Hone Do Aparichit –Vyaakhya,	
27.	Panth Hone Do Aparichit –Vyaakhya,	
28.	Question & Answer	
29.	Tutorial/ Discussion.	

Department of History

DIGBOI COLLEGE, DIGBOI

Course Plan June , 2020

Name of the Teacher- Dr. Anamika Neog

Course –Honours / Generic – HISGE1

Class/Semester-1

Name of the Paper-History of Assam 1228-1826

Units Assigned- Unit III (3.03)- Unit V

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Post-Saraighat Assam- Debera Hazarika	Text Books:
2.	Atan Bargohain, Laluk Sola Barphukan	English: Baruah, S.L. –A Comprehensive History of Assam Gait, E.A.- A History of Assam
3.	Ascendancy of the Tungkhungia dynasty-the reign of Gadadhar Singha	Assamese: Baruah, Surajit Boruah, Nirode-Asomar Itihas, 2 nd edition (revised) Nath, D. –Asam Buranji, Revised and enlarged edition
4.	Ahom rule at its zenith-the reign of Rudra Singha	
5.	Rajeshwar Singha (1751-1769)	
6.	Background of the Moamariya Rebellion	
7.	Lakshmi Singha (1769-1780)	
8.	The Moamariya Rebellion	

9.	Gaurinath Singha(1780-1795)	
10.	Decline and fall of the Ahom Kingdom	
11.	The Burmese invasions	
12.	The East India company in Assam politics- the Treaty of Yandabo and Assam	
13.	Ahom system of administration	
14.	The Paik System	
15.	Ahom policy towards the neighbouring hill tribes;	
16.	Society in Assam under the Ahoms	
17.	Caste and class structures	
18.	The Neo-Vaishnavite Movement-background	
19.	The Neo-Vaishnavite Movement- its implications	
20.	Sankardev and the Neo-Vaishnavite Movement	

DIGBOI COLLEGE, DIGBOI

Course Plan -June, 2020

Name of the Teacher-Dr. Anamika Neog

Course –Honours / Generic – HISGE3

Class/Semester III

Name of the Paper- History of India 1526 to 1947

Units Assigned- Unit III (3.02)- Unit V

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Expansion and consolidation of the British rule in India upto 1857- Conflict with the Marathas	Text Books:
2.	Expansion and consolidation of the British rule in India upto 1857- Conflict with Mysore, Awadh, Punjab and Sindh	English: Banerjee,A.C.- History of India Chandra, S.- Medieval India From Sultanat to Mughals (1526- 1748
3.	Administrative developments upto 1857	Assamese: Barua, P.K. Hussain, T.A.- Bharat Buranji Goswami, S.D. - Bharat Buranji
4.	Socio- economic reform upto 1857	
5.	Revolt of 1857 and its aftermath	
6.	Post 1858 administrative developments till 1919;	
7.	Socio- religious reform movements in the post 1857 period	
8.	Growth of press and rise of national consciousness	
9.	Freedom struggle upto 1919- Partition of Bengal and the Swadeshi Movement,;	
10.	Home Rule League	
11.	Rise of Muslim of Muslim Politics	

12.	Freedom Struggle from 1919 to 1939- Gandhi in politics	
13.	Khilafat and Non- Cooperation Movement	
14.	Civil Disobedience Movement	
15.	Government of India Act, 1935	
16.	Rise of Communalism, revolutionary terrorism	
17.	Trade unionism and Leftist politics	
18.	Cripps Mission- Quit India Movement- Second World War-INA	
19.	Post- War Development- Cabinet Mission	
20.	Transfer of power	

DIGBOI COLLEGE, DIGBOI

Course Plan -June, 2020

Name of the Teacher-Dr. Anamika Neog

Course – Core/ Pass Course- Course- V

Class/Semester- V

Name of the Paper- History of India 1526-1947

Units Assigned- Unit III (3.02) – Unit V

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Expansion and consolidation of the British rule in India upto 1857- Conflict with the Marathas	Text Books:
2.	Expansion and consolidation of the British rule in India upto 1857- Conflict with Mysore, Awadh, Punjab and Sindh	English: Banerjee,A.C.- History of India Chandra, S.- Medieval India From Sultanat to Mughals (1526- 1748
3.	Administrative developments upto 1857	Assamese: Barua, P.K. Hussain, T.A.- Bharat Buranji Goswami, S.D. - Bharat Buranji
4.	Socio- economic reform upto 1857	
5.	Revolt of 1857 and its aftermath	
6.	Post 1858 administrative developments till 1919;	
7.	Socio- religious reform movements in the post 1857 period	
8.	Growth of press and rise of national consciousness	
9.	Freedom struggle upto 1919- Partition of Bengal and the Swadeshi Movement	
10.	Home Rule League	
11.	Rise of Muslim of Muslim Politics	
12.	Freedom Struggle from 1919 to 1939- Gandhi in politics	
13.	Khilafat and Non- Cooperation Movement	

14.	Civil Disobedience Movement	
15.	Government of India Act, 1935	
16.	Rise of Communalism, revolutionary terrorism	
17.	Trade unionism and Leftist politics	
18.	Cripps Mission- Quit India Movement- Second World War-INA	
19.	Post- War Development- Cabinet Mission	
20.	Transfer of power	

DIGBOI COLLEGE, DIGBOI

Course Plan January,2021

Name of the Teacher-Dr. Anamika Neog

Course –Honours / Generic – HISGE2

Class/Semester- II

Name of the Paper- History of India From the earliest times to 1526

Units Assigned- Unit III (3.04) – Unit V

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Gupta Age- Political history	Text Books:
2.	Gupta Age- society,economy and culture	English: Thapar, Romila- Early India Chandra, S- History of Medieval India Singh, Upindar- A History of Ancient and Early Medieval India
3.	Post-Gupta period(upto 640 A.D.)- polity, society,economy and culture	Assamese: Barua, P.K.- Bharat Buranji Nath, D.- Bharatar Rajnoitik aru Sanskritik Buranji(Revised)
4.	Political developments in the South- the Pallavas	
5.	The Imperial Cholas	
6.	The Rashtrakutas	
7.	The Chalukyas	
8.	The Arabs in Indian politics	
9.	The Turks in Indian politics- Ghaznivides	
10.	The Ghorid invasions	

11.	Indian Society during 650-1200 A.D.-literature & language, temple architecture and sculpture	
12.	The Delhi Sultanate- the Slave dynasty	
13.	The Khaljis- Alauddin Khalji's administration	
14.	The Tughluqs dynasty	
15.	Disintegration of the Delhi Sultanate and rise of Provincial Kingdoms	
16.	Vijayanagar Kingdom	
17.	Bahmani Kingdom	
18.	Polity, society of the Sultanate period	
19.	Economy, religion and culture of the Sultanate period,	
20.	Bhakti Movement and Sufism	

DIGBOI COLLEGE, DIGBOI

Course Plan , January, 2021

Name of the Teacher- Dr. Anamika Neog

Course –Honours / Generic – HISGE 4.1

Class/Semester- IV

Name of the Paper-History of Modern Assam

Units Assigned- Unit III (3.04) – Unit V

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Growth of national consciousness	Text Books:
2.	Assam association	English: Baruah, S.L. –A Comprehensive History of Assam Barpujari, H.K. -(ed) The Comprehensive History of Assam, Vol. IV&V
3.	Sarbajanik sabhas	Assamese: Nath, D. – Asam Buranji, Revised and enlarged edition
4.	Rayat sabhas.	
5.	Impact of Partition of Bengal in Assam.	
6.	Impact of Swadeshi Movement in Assam	
7.	Government of India Act, 1919	
8.	Dyarchy on Trial in Assam	
9.	Non-Co-operation Movement in Assam	
10.	Swarajist Politics in Assam	
11.	The Civil Disobedience Movement	
12.	Student Movement in Assam	
13.	Trade Union and Allied Movements	
14.	Tribal League and Politics in Assam.	
15.	Migration	
16.	Line System and its Impact on Politics in Assam	
17.	Quit India Movement in Assam	
18.	Cabinet Mission plan and the Grouping Controversy.	
20.	The Sylhet Referendum	

DIGBOI COLLEGE, DIGBOI

Course Plan , January,2021

Name of the Teacher- Dr. Anamika Neog

Course –Core/ Pass Course – Course VI (Optional -II)

Class/Semester- VI

Name of the Paper- Women in Indian History

Units Assigned- Unit III (3.03)- Unit V

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Development of Women's Education in the 19 th and 20 th centuries	Text Books:
2.	Role of Social Reformers	English: Altekar, A.S.-The Position of Women in Hindu Civilization, 2 nd print Chandel,Bhuban(ed.)- Women in Ancient and Medieval India, Vol.IX, Part-II Forbes, Geraldine; Women in Modern India Mahanta, A-Journey of Assamese Women1836-1937
3.	Role of Missionaries	Assamese: Goswami,Gita, Goswami,P-Bharator Itihasot Nari
4.	Sarda Act,1929	
5.	Hindu Women's Right to Property Act,1937	
6.	Development of Women's Organisation	
7.	Women's Conference,1910	
8.	National Council of Women in India	
9.	Demand for Women's Franchise	

10.	Women in Indian Freedom Struggle:Pre-Gandhian Phase	
11.	Women in Freedom Struggle-Gandhian Phase	
12.	Women in Revolutionary Movement	
13.	Women and Society in Medieval Assam	
14.	Patriarchy in Medieval Assam	
15.	Social Reform Movement in 19 th and 20 th centuries	
16.	Development of Women's Organisation in Assam	
17.	Women in Freedom Struggle in North East India	

DIGBOI COLLEGE, DIGBOI

Course Plan , June,2021

Name of the Teacher- Dr. Anamika Neog

Course –Honours / Generic – HISGE1

Class/Semester- I

Name of the Paper- History of Assam 1228-1826

Units Assigned- Unit III (3.03)- Unit V

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Post-Saraighat Assam- Debera Hazarika	Text Books:
2.	Atan Bargohain, Laluk Sola Barphukan	English: Baruah, S.L. –A Comprehensive History of Assam Gait, E.A.- A History of Assam
3.	Ascendancy of the Tungkhungia dynasty-the reign of Gadadhar Singha	Assamese: Baruah, Surajit Boruah,Nirode-Asomar Itihas,2 nd edition (revised) Nath,D. –Asam Buranji, Revised and enlarged edition
4.	Ahom rule at its zenith-the reign of Rudra Singha	
5.	Rajeshwar Singha (1751-1769)	
6.	Background of the Moamariya Rebellion	
7.	Lakshmi Singha (1769-1780)	
8.	The Moamariya Rebellion	
9.	Gaurinath Singha(1780-1795)	
10.	Decline and fall of the Ahom Kingdom	
11.	The Burmese invasions	
12.	The East India company in Assam politics- the Treaty of Yandabo and Assam	
13.	Ahom system of administration	
14.	The Paik System	
15.	Ahom policy towards the neighbouring hill tribes	

16.	Society in Assam under the Ahoms	
17.	Caste and class structures	
18.	The Neo-Vaishnavite Movement-background	
19.	The Neo-Vaishnavite Movement- its implications	
20.	Sankardev and the Neo-Vaishnavite Movement	

DIGBOI COLLEGE, DIGBOI

Course Plan ,June,2021

Name of the Teacher- Dr. Anamika Neog

Course –Honours / Generic – HISGE 3

Class/Semester-III

Name of the Paper- History of India 1526-1947

Units Assigned- Unit III (3.02)- Unit V

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Expansion and consolidation of the British rule in India upto 1857- Conflict with the Marathas	Text Books:
2.	Expansion and consolidation of the British rule in India upto 1857- Conflict with Mysore, Awadh, Punjab and Sindh	English: Banerjee,A.C.- History of India Chandra, S.- Medieval India From Sultanat to Mughals (1526- 1748)
3.	Administrative developments upto 1857	Assamese: Barua, P.K. Hussain, T.A.- Bharat Buranji Goswami, S.D. - Bharat Buranji
4.	Socio- economic reform upto 1857	
5.	Revolt of 1857 and its aftermath	
6.	Post 1858 administrative developments till 1919	
7.	Socio- religious reform movements in the post 1857 period	
8.	Growth of press and rise of national consciousness	
9.	Freedom struggle upto 1919- Partition of Bengal and the Swadeshi Movement	
10.	Home Rule League	
11.	Rise of Muslim of Muslim Politics	

12.	Freedom Struggle from 1919 to 1939- Gandhi in politics	
13.	Khilafat and Non- Cooperation Movement	
14.	Civil Disobedience Movement	
15.	Government of India Act, 1935	
16.	Rise of Communalism, revolutionary terrorism	
17.	Trade unionism and Leftist politics	
18.	Cripps Mission- Quit India Movement- Second World War-INA	
19.	Post- War Development- Cabinet Mission	
20.	Transfer of power	

Department of Mathematics

DIGBOI COLLEGE, DIGBOI

Course Plan (Session June-December, 2020)

Name of the Teacher: Dr. Jatindra Lahkar

Course –Honours / Generic: Honours

Class/Semester: First Semester

Name of the Paper: Calculus(P) Paper Code:C1

Units Assigned: Complete Paper

Marks Assigned: Theory – 60 and Practical – 20.

Class	Topic/ Unit	Remarks
1	Unit-1: Introductory Class: About Calculus and its historical background.	
2	Hyperbolic functions: Introduction, definitions, identities and examples. Graph of hyperbolic Functions.	
3	Derivatives and integrals of Hyperbolic functions.	
4	Evaluation of inverse hyperbolic functions and their graph.	
5	Higher order derivatives: Successive differentiation. Examples	
6	The nth derivative of some special functions and rational algebraic functions. Examples	
7	Leibnitz theorem for nth derivative of product functions and application to problems of type $e^{ax+b}\sin x$, $e^{ax+b}\cos x$,	
8	Leibnitz theorem application to problems of type $(ax+b)^n\sin x$, $(ax+b)^n\cos x$. Symbolic operation.	
9	Concavity and convexity and its definitions and application to real life.	
10	Point of inflexion, analytical test for concavity. Examples	
11	Asymptotes: Introduction, Definitions, Rectangular asymptotes, Oblique asymptotes and its examples.	
12	Method of finding rectangular and oblique asymptote, Examples	
13	Examples of asymptotes.	
14	Curve tracing in cartesian coordinates, tracing of cycloid, cardioid etc.	
15	Curve tracing in polar coordinates, tracing of cycloid, cardioid etc.	
16	Examples of curve tracing in cartesian and polar form.	
17	Indeterminate form: L'Hospital's rule, Definition and Rule 0/0 form, ∞/∞ form, example	
18	Rule $0 \times \infty$, $\infty - \infty$, 0^0 , ∞^0 , $1^{\pm\infty}$ forms and its applications examples.	
19	Application of Maxima and Minima.	
20	Examples of Maxima and minima.	
21	Unit-2: Reduction formulae: Introduction.	

22	Derivations and illustrations of reduction formulae of the type $\int \sin^n x dx$, $\int \cos^n x dx$, and for definite integrals from 0 to $\pi/2$, and Examples	
23	Derivations and illustrations of reduction formulae of the type $\int \tan^n x dx$, $\int \cot^n x$, and for definite integrals from 0 to $\pi/2$ and Examples	
24	Derivations and illustrations of reduction formulae of the $\int \sec^n x dx$, $\int \operatorname{cosec}^n x dx$, and for definite integrals from 0 to $\pi/2$, and Examples.	
25	Derivations and illustrations of reduction formulae of the , $\int (\log x)^n dx$, $\int \sin^n x \sin^m x dx$ and examples.	
26	Derivations and illustrations of reduction formulae of the type $\int x \sin^n x dx$, $\int x \cos^n x dx$, and Examples	
27	Derivations and illustrations of reduction formulae of the type $\int e^x \sin^n x dx$, $\int e^x \cos^n x dx$, and Examples	
28	Derivations and illustrations of reduction formulae of the type $\int \cos^m x \sin nx dx$, $\int \cos^m x \cos nx dx$, and Examples	
29	Volume by slicing formula and examples.	
30	Volume of solids of revolution: disk method, Formula for rotation about x-axis and y- axis and examples.	
31	Volume of solids of revolution: Washers method, Formula for Finding Volumes by Washer Method and Examples.	
32	Volume by Cylindrical Shells: Shell formula for Revolution about y-axis and examples	
33	Volume by Cylindrical Shells: Shell formula for Revolution about x-axis and examples	
34	Unit-3: Parameterizing a plane curve: Parametric equation of circle, half circle, parabola, ellipse, hyperbola.	
35	Tracing of curves of Parametric equation of circle, half circle, parabola, ellipse, hyperbola.	
36	Conversion of parametric to cartesian equations and vice-versa.	
37	Calculus with parametrization curves. First and second derivatives.	
38	Arc length of cartesian equations, formula and examples.	
39	Arc length of parametric curves formula and examples.	
40	Area of surface of revolution: Formula for Surface area revolving about x-axis($y \geq 0$) and examples.	
41	Formula for Surface area revolving about y-axis($x \geq 0$) and examples.	
42	Conversion of cartesian to polar coordinates and examples.	
43	Techniques of sketching conics: Techniques of sketching parabola and ellipse and hyperbola and examples.	
44	Techniques of sketching hyperbola and examples.	
45	Shifting conic sections,	
46	Classification of conic section by eccentricity.	
47	Reflection properties of parabola, ellipse and hyperbola and its uses in practical life.	
48	Quadratic equation and rotation of axes: Rotating the coordinate axes to eliminate the cross-product term, and examples.	
49	Classification into conics using the discriminant $B^2 - 4AC \geq 0$ with examples.	

50	Polar equations of conics: parabola, ellipse and hyperbola.	
51	Unit-3: Triple Product: Definition of Vector triple product and examples.	
52	Definition of Scalar triple product and examples.	
53	Volume of parallepiped and collinearity of four points.	
54	Introduction to vector functions.	
55	Operations with vector-valued functions.	
56	Limits and continuity of vector functions and examples.	
57	Differentiation and integration of vector functions and examples.	
58	Integration of vector functions and examples.	
59	Tangent and Normal components of acceleration and examples.	
60	Practical: Introduction to MatLab(Matrix Laboratory)	Practical Class 2 hours.
61	Uses and application of MatLab in different fields.	
62	Basic structures and different MatLab windows : Command Window, Command History, Workspace, Current Directory, Help Browser, Start button	
63	Using MATLAB as a calculator: Creating MATLAB variables etc.	
64	MatLab built in functions and user defined functions.	
65	Hierarchy of algebraic operations, evaluation of expressions.	
66	Controlling the appearance of floating point number, format specification of integer. %f and %d format. Format long and short.	
67	Some basic commands: like clc, clear all, close all, who, whos, hold on, bar3, clear, compass, pie, figure, subplot, plot, gridon, text, surf, surfc, meshgrid, mesh, meshc etc.	
68	Plotting of graphs of function e^{ax+b} , $\log(ax+b)$, and to illustrate the effect of a and b on the graph. Plot of sinx and cosx graph in single plot command.	
69	Plotting of graphs of function $1/(ax+b)$, $\sin(ax+b)$, $\cos(ax+b)$, $ ax+b $ and to illustrate the effect of a and b on the graph.	
70	Plotting the graphs of polynomials of degree 4 and 5 etc.	
71	Plotting the graphs of the derivative graph, the second derivative graph and comparing them.	
72	Sketching parametric curves (E.g. Trochoid, cycloid).	
73	Sketching parametric curves (E.g. epicycloids, hypocycloid).	
74	Obtaining surface of revolution of curves using surf, surfc command.	
75	Tracing of conics in Cartesian coordinates.	
76	Tracing of conics in polar coordinates. Derivative and integration of functions.	
77	Sketching ellipsoid, hyperboloid of one and two sheets, elliptic cone using cartesian coordinates.	
78	Sketching of elliptic paraboloid, hyperbolic paraboloid using cartesian coordinates. Solution of system of linear equations	
79	Matrix input, addition, subtraction and multiplication of matrix.	
80	Matrix inversion, transpose, determinant etc.	

DIGBOI COLLEGE, DIGBOI

Course Plan (Session June-December, 2020)

Name of the Teacher: Dr. Jatindra Lahkar

Course –Honours / Generic: Honours

Class/Semester: Third Semester

Name of the Paper: PDE and system of PDE, Paper Code:C7

Units Assigned: Complete Paper

Marks Assigned: Theory – 60 and Practical – 20.

Class	Topic/ Unit	Remarks
1	Unit-1: Partial Differential Equations – Basic concepts and Definitions, order and degree of PDE.	
2	Classification of first order PDE: linear and non-linear PDE.	
3	Formation of PDE Rule-1	
4	Formation of PDE by the elimination of arbitrary constants.	
5	Formation of PDE by the elimination of arbitrary functions.	
6	Lagrange's Equation or Quasi-linear PD Equation with examples.	
7	Method of Characteristics for obtaining General Solution of Quasi Linear Equations	
8	Solution of Lagrange's Equation Rule-1 with examples.	
9	Solution of Lagrange's Equation Rule-2 with examples.	
10	Solution of Lagrange's Equation Rule-3 with examples.	
11	Solution of Lagrange's Equation Rule-4 with examples.	
12	Geometrical Interpretation of 1st order linear PDE.	
13	Integral surface through a given curve.	
14	Cauchy's problem for 1 st order equations.	
15	Non-linear partial differential equations: particular, singular and general and complete solution.	
16	Compatible system of 1 st order equation with examples.	
17	Charpit's method (General method of solving PDE of order one but of any degree)	
18	Examples on Charpit's method.	
19	Examples on Charpit's method.	
20	Jacobi's method: involving three or more independent variable.	
21	Examples on Jacobi's method.	
22	Examples on Jacobi's method.	
23	Canonical Forms of First-order Linear Equations.	

24	Method of Separation of Variables for solving first order partial differential equations.	
25	Examples on Method of Separation of Variables for solving first order partial differential equations.	
26	Unit-2: Classifications of second order linear equations as hyperbolic, parabolic or elliptic.	
27	Problems on Classifications of second order linear equations as hyperbolic, parabolic or elliptic.	
28	Derivations of Heat equation.	
29	Derivations of Wave equation.	
30	Derivations of Laplace equation.	
31	Solution of Heat equation.	
32	Solution of Wave equation.	
33	Solution of Laplace equation.	
34	Reduction of parabolic equation to Canonical form.	
35	Reduction of elliptic equation to Canonical form.	
36	Reduction of hyperbolic equation to Canonical form.	
37	Unit-3: Method of separation of variables. The principle of super position.	
38	Fourier sine and cosine series.	
39	Examples on Method of separation of variables.	
40	Examples on Method of separation of variables.	
41	General solution of Vibrating string problem, one dimensional wave equation.	
42	Example of Vibrating string problem with initial and boundary condition.	
43	Solving the Heat Conduction problem using Method of separation of variables	
44	Solving the Heat Conduction problem using Method of separation of variables with initial and boundary condition.	
45	Unit-4: Systems of linear differential equations.	
46	Types of linear systems with examples.	
47	Normal form linear system.	
48	Differential operators and operator method. Application.	
49	Transform of single LDE into the system of first order DE.	
50	Solution of system of LDE with operator method with examples.	
51	Alternative method for solving System of LDE.	
52	Homogeneous and Non-Homogeneous linear systems.	
53	Two Equations in two unknown functions.	
54	The method of successive approximations.	
55	Euler method, the modified Euler method	
56	The Runge-Kutta method upto fourth order approximation.	
57	Practical: Some MatLab command for solving PDE.	Practical: Class time 2 hours
58	Solution of Cauchy problem for first order PARTIAL DIFFERENTIAL EQUATION, Class-1	

59	Solution of Cauchy problem for first order PARTIAL DIFFERENTIAL EQUATION, Class-2	
60	Finding the characteristics for the first order PDE, Class-1	
61	Finding the characteristics for the first order PDE, Class-2	
62	Plot the integral surfaces of a given first order PDE with initial data, Class-1	
63	Plot the integral surfaces of a given first order PDE with initial data, Class-2.	
64	Solution of wave and heat equations by pdepe solver and pdetool, Class-1.	
65	Solution of wave and heat equations by pdepe solver and pdetool, Class-2.	
66	Solution of LDE by R.K. Method.	
67	Solution of LDE by successive Methods	
68	Solution of LDE by Euler and Modified Euler Methods.	

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Course Plan (Session June-December, 2020)

Name of the Teacher: Dr. Jatindra Lahkar

Course –Honours / Generic: Major

Class/Semester: Fifth Semester

Name of the Paper: Fluid Mechanics: Paper MM503

Units Assigned: Complete Paper

Marks Assigned: Theory – 80.

Class	Topic/ Unit	Remarks
1	Hydro Dynamics Unit I: Kinematics, Real and ideal fluid	
2	Velocity of a fluid at a point with example	
3	Eulerian and Lagrangian method	
4	Stream lines and path lines, steady and unsteady flows	
5	Velocity potential, rotational and irrotational motions	
6	Local and particle rate of change	
7	Derivation of equation of continuity	
8	Equation of continuity, Examples	
9	General analysis of fluid motion	
10	Unit II: Equation of Motion:	
11	Euler's equation of motion.	
12	Bernoulli's equation of motion	
13	Steady motion under conservative forces	
14	Impulsive motion	
15	Circulation	
16	Kelvin's circulation theorem	
17	Unit-III: General theory of irrotational motion	
18	Potential flow, deductions from Green's theorem	
19	Kinetic energy of a liquid, uniqueness theorems	
20	Kelvin's minimum energy theorem	
21	Mean value of velocity potential and problems	
22	Hydro Statics Unit – I: Fluid Pressure: Introduction	
23	Fluid Pressure and related theorems	
24	Density and specific gravity, problems	
25	Theorems on fluid pressure under gravity	

26	Rate of variation of pressure	
27	Differential equation of pressure	
28	Condition of equilibrium	
29	Equi-pressure surfaces and lines of force	
30	Curves of Equi-pressure	
31	Curves of Equi-density	
32	Examples	
33	Unit – II: Resultant fluid pressure and related theorems, class-1	
34	Resultant fluid pressure and related theorems- class-2	
35	Centre of pressure: Definition and how to find CP	
36	Determination of centre of pressure of parallelogram	
37	Determination of centre of pressure of triangle	
38	Determination of centre of pressure of Circle	
39	Problems related to CP	
40	Problems related to CP	
41	Problems related to CP	
42	Thrust on curved surfaces, Resultant vertical and horizontal Thrust and Examples.	
43	Thrust on curved surfaces, Examples.	
44	Unit – III: Equilibrium and Stability of Floating Bodies	
45	Condition of equilibrium of floating bodies, Examples	
46	Stable, Unstable and Neutral Equilibrium, definition and examples	
47	Meta Centre, theorems	
48	Determination of Meta Centre.	
49	Surface of Buoyancy, plane of flotation.	
50	Surface of floatation, centre of gravity, Examples.	

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Course Plan (June 2020 to Dec 2020)

Name of the Teacher: Mukul Buragohain

Course-Honours/ Generic- Honours

Class/Semester- Sem-I

Name of the Paper- C2(Algebra)

Units Assigned: Unit-4

Marks Assigned- 25

Class	Topic/Unit	Remarks
1	Introduction to linear Algebra	
2	Basic definitions and Examples	
3	Matrix of a linear transformation	
4	Basic properties and examples of linear transformation	
5	Inverse of a matrix	
6	Tutorial	
7	Solved examples of inverse of a matrix	
8	Characterization of invertible matrices	
9	Examples of invertible matrix	
10	Definition of subspace with examples	
11	Theorems on subspaces	
12	Tutorial	
13	Linear dependence and independence	
14	Examples related with Linear dependence and independence	
15	Base and dimension	
16	Dimension of subspaces of R^n	
17	Dimension theorem	
18	Tutorial	
19	rank of a matrix	
20	Rank nullity theorem	
21	Solved examples to find the rank of a matrix	
22	Eigenvalues and Eigenvectors	
23	Theorems on Eigenvalues and Eigenvectors	
24	Characteristic equation of a matrix	
25	Tutorial	

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Course Plan(June 2020 to Dec 2020)

Name of the Teacher: Mukul Buragohain

Course-Honours

Class/Semester-SEM-III

Name of the Paper- C6 (Group Theory -I)

Units Assigned- Unit-1,2,3,4 & 5

Marks Assigned-80

Class	Topic/Unit	Remarks
1	Unit-1 :Introduction to Group theory	
2	Basic definitions and operations on sets	
3	Symmetries of a square	
4	Symmetries of a square	
5	Tutorial	
6	Dihedral groups	
7	Examples of Dihedral groups of various order	
8	Definition and examples of permutation groups	
9	Theorem on permutation groups	
10	Tutorial	
11	Definition and examples of quaternion groups	
12	Definition and examples of quaternion groups	
13	Definition and examples of groups	
14	Elementary properties of groups.	
15	Tutorial	
16	Basic Theorems on groups	
17	Basic Theorems on groups	
18	Solved Examples of groups	
19	Solved Examples of groups	
20	Tutorial	
21	Unit-2 : Subgroups and examples of subgroups	
22	Basic properties of subgroups	
23	Theorems on subgroups	
24	Theorems on subgroups	
25	Tutorial	
26	centralizer	
27	Theorems on centralizer	
28	normalizer	
29	Theorems on centralizer	
30	Center of a group	

31	Theorems on center of a group	
32	Tutorial	
33	product of two subgroups	
34	Theorems on product of two subgroups	
35	Tutorial	
36	Unit-3 Definition and examples of cyclic groups	
37	Definition and examples of cyclic groups	
38	Properties of cyclic groups	
39	classification of subgroups of cyclic groups	
40	Theorems on Cyclic groups	
41	Tutorial	
42	Permutations and Cycle notation for permutations	
43	properties of permutations	
44	even and odd permutations	
45	Computation of even and odd permutations	
46	alternating group	
47	Tutorial	
48	Cosets	
49	properties of cosets	
50	Theorems on cosets	
51	Tutorial	
52	Lagrange's theorem	
53	Simple application of Lagrange's theorem	
54	Fermat's Little theorem	
55	Tutorial	
56	Unit-4 External direct product	
57	Properties of External direct product	
58	Properties of External direct product	
59	Theorems on External direct product	
60	Tutorial	
61	normal subgroups	
62	Theorems on normal subgroups	
63	Theorems on normal subgroups	
64	Theorems on normal subgroups	
65	factor groups	
66	Theorem on factor groups	
67	Tutorial	
68	Cauchy's theorem for finite abelian groups	
69	Application of Cauchy's theorem for finite abelian groups	
70	Tutorial	
71	Unit-4 Group homomorphisms	
72	Examples of group homomorphism	
73	properties of homomorphisms	
74	Tutorial	

75	Cayley's theorem	
76	Cayley's theorem	
77	Isomorphisms and its Examples	
78	properties of isomorphisms	
79	Tutorial	
80	First isomorphism theorems	
81	Application of First isomorphism theorems	
82	second isomorphism theorems	
83	Third isomorphism theorems	
84	Tutorial	
85	Tutorial	

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Course Plan(June 2020 to Dec 2020)

Name of the Teacher: Mukul Buragohain

Course-Honours

Class/Semester-Sem-I

Name of the Paper- GE-1

Units Assigned- Unit-2 & 3

Marks Assigned-50

Class	Topic/Unit	Remarks
1	Unit-2 Equation of tangent	
2	Cartesian Equation of tangent with examples	
3	Polar Equation of tangent with examples	
4	Tutorial	
5	Equation of Normal	
6	Cartesian Equation of Normal with examples	
7	Polar Equation of normal with examples	
8	Tutorial	
9	Angle of Intersection of Curves	
10	Angle of Intersection of Two Curves in Polar Form	
11	Cartesian Sub-tangent and Sub-normal	
12	Length of Polar Subtangent and Polar Subnormal	
13	Curvature and Radius of Curvature with examples	
14	Curvature at the Origin	
15	Chord of Curvature Through Origin	
16	Asymptotes and its geometrical interpretation	
17	Determination of asymptotes parallel to coordinate axis and not parallel to coordinate axis	
18	Tutorial	
19	Determination of Asymptotes of rational algebraic curve	
20	General rule of finding asymptotes of the rational algebraic curve	
21	Asymptote obtained by inspection	
22	Singular points	
23	Tutorial	
24	Singular point at the origin of a rational algebraic curve:	
25	Tutorial	
26	Parametric representation of curves	
27	tracing of parametric curves	

28	Examples	
29	Polar coordinates	
30	tracing of curves in polar coordinates	
31	Unit-3 Rolle's theorem	
32	Geometrical interpretation of Rolle 's Theorem	
33	Application of Roll' Theorem	
34	Tutorial	
35	Lagrange's Mean Value Theorem	
36	Geometrical significance of Lagrange's Mean Value theorem	
37	Application of Lagrange's Mean Value Theorem	
38	Tutorial	
39	Cauchy's Mean Value Theorem	
40	Solved exaples	
41	Another form of Taylor's Theorem	
42	Taylor's Theorem with Lagrange's Form of Remainder	
43	Taylor's Theorem with Generalised Form of Remainder	
44	Taylor's series	
45	Examples related with Taylor's series	
46	Tutorial	
47	Maclaurin's Theorem	
48	Application of Maclaurin's Theorem	
49	Maclaurin's series of $\sin x$, $\cos x$	
50	Maclaurin's series of $\log(1+x)$, $(1+x)^m$	
51	Maxima and Minima	
52	Determination of Maxima and minima by 1 st derivative test with examples	
53	Determination of Maxima and minima by 2 nd derivative test with examples	
54	Tutorial	
55	Tutorial	
56	Indeterminate forms with various forms	
57	L'Hospital's Rule	
58	Solved examples	
59	Solved examples	
60	Tutorial	

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Course Plan(June 2020 to Dec 2020)

Name of the Teacher: Mukul Buragohain

Course-Major

Class/Semester- Sem-V

Name of the Paper- Linear Algebra & Number Theory

Units Assigned- (A) Linear Algebra- unit 1 & 2, (B) Number Theory- unit 1,2,3,4

Marks Assigned- 80

Class	Topic/Unit	Remarks
1	A-Unit-1: System of linear equations	
2	Consistency and inconsistency of System of linear equations	
3	Definitions and examples of Vector space	
4	Properties of Vector space	
5	vector subspace	
6	Theorems on vector subspaces	
7	Linear independence and dependence	
8	Linear Span	
9	Base and dimension	
10	Theorems on base and dimension of vector spaces	
11	Dimension theorem	
12	Solved examples	
13	A-Unit-2: Definition of a line	
14	Theorem on lines	
15	Affine Space	
16	Theorem on Affine Space	
17	Quotient Space	
18	Theorems on Quotient Space	
19	Linear transformation with examples	
20	Properties of linear transformation	
21	Theorem on linear transformation	
22	Representation of Linear maps by Matrices	
23	Kernel and image of a linear transformation	
24	linear isomorphism	
25	Geometric Ideas and some loose ends	
26	B-Unit-1: Peano's axiom and Well ordering property of positive integer	
27	Division Algorithm	
28	G.C.D and LCM	
29	Euclidean Algorithm	

30	Unit-2: Prime numbers	
31	unique factorization theorem	
32	Euclid's theorem	
33	greatest integer function	
34	Unit-3: Definition and Basic properties of congruence	
35	complete residue system and reduced residue system	
36	Application of CRS and RRS	
37	Fermat's little theorem	
38	Euler's theorem	
39	Wilson's theorem	
40	Application of Fermat's, Euler's & Wilson's theorem	
41	Solution of Congruence	
42	Solutions of the problems of type $ax+by+c=0$	
43	Chines Remainder theorem	
44	Solutions of simultaneous equations by using Chines Remainder theorem	
45	Unit-4: Arithmetic Function	
46	Properties of arithmetic	
47	Euler's function	
48	Division function	
49	Mobius function	
50	Mobius inversion formula	

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Course Plan (January 2021 to June 2021)

Name of the Teacher: Mukul Buragohain

Course-Honours

Class/Semester- Sem-IV

Name of the Paper- C10 (Ring Theory & Linear Algebra-I)

Units Assigned- Unit-1 &2

Marks Assigned-35

Class	Topic/Unit	Remarks
1	Unit-1: Definition and examples of rings	
2	Solved Examples	
3	properties of rings	
4	subrings	
5	Subrings related theorem	
6	Tutorial	
7	integral domain and theorems	
8	Fields and related theorems	
9	characteristic of a ring	
10	Ideal	
11	Ideal and its properties.	
12	ideal generated by a subset of a ring	
13	operations on ideals	
14	Tutorial	
15	factor rings	
16	Theorems on factor rings	
17	prime and maximal ideals	
18	Theorems on prime ideals	
19	Theorems on maximal ideals	
20	Tutorial	
21	Unit-2: Ring homomorphisms	
22	Examples of Ring homomorphisms	
23	Tutorial	
24	properties of ring homomorphisms	
25	properties of ring homomorphisms	
26	Solved problems on ring homomorphism	
27	Solved problems on ring homomorphism	
28	Solved problems on ring homomorphism	
29	Tutorial	
30	Isomorphism theorems I	
31	Tutorial	

32	Isomorphism theorems II	
33	Isomorphism theorems II	
34	Isomorphism theorems III	
35	Isomorphism theorems III	
36	Tutorial	
37	field of quotients	
38	Theorems on field of quotients	
39	Theorems on field of quotients	
40	Tutorial	

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Course Plan(January 2021 to June 2021)

Name of the Teacher: Mukul Buragohain

Course- Generic

Class/Semester- Sem-IV

Name of the Paper- Algebra(GE4)

Units Assigned- Unit-1 &2

Marks Assigned- 56

Class	Topic/Unit	Remarks
1	Unit-1: Definition and examples of groups	
2	Basic Properties of groups	
3	Tutorial	
4	Order of an element and order of a group	
5	examples of abelian and non-abelian groups	
6	examples of abelian and non-abelian groups	
7	Tutorial	
8	Theorems on abelian and non-abelian groups	
9	The group Z_n of integers under addition modulo n	
10	Solved Examples related with addition modulo n	
11	Solved Examples related with addition modulo n	
12	the group $U(n)$ of units under multiplication modulo n	
13	Tutorial	
14	Solved Examples related with multiplication modulo n	
15	Cyclic groups from number systems	
16	Cyclic groups from number systems	
17	complex roots of unity	
18	Tutorial	
19	circle group	

20	the general linear group $GL(n, R)$	
21	groups of symmetries of an isosceles triangle,	
22	groups of symmetries of an equilateral triangle,	
23	groups of symmetries of a rectangle	
24	groups of symmetries of a square	
25	the permutation group $Sym(n)$	
26	Tutorial	
27	Solved examples	
28	Solved examples	
29	Group of quaternions	
30	Tutorial	
31	Unit-2: Subgroups and examples	
32	examples of subgroups	
33	examples of subgroups including the center of a group.	
34	Theorems on subgroups	
35	Theorems on subgroups	
36	Tutorial	
37	cyclic subgroups	
38	Theorem on cyclic subgroups	
39	Theorem on cyclic subgroups	
40	Theorem on cyclic subgroups	
41	the concept of a subgroup generated by a subset	
42	the commutator subgroup of group	
43	Properties of the commutator subgroup of group	
44	Tutorial	
45	Theorems on commutator subgroup of group	
46	Theorems on commutator subgroup of group	
47	Cosets	
48	Theorems on Cosets	
49	Tutorial	
50	Index of subgroup	
51	Lagrange's theorem	
52	order of an element of a group	
53	Theorems on order of an element of a group	
54	Tutorial	
55	Normal subgroups and its examples and characterizations	
56	Theorems on Normal subgroups	
57	Theorems on Normal subgroups	
58	Quotient groups	
59	Theorems on Quotient groups	
60	Tutorial	

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Course Plan(January 2021 to June 2021)

Name of the Teacher: Mukul Buragohain

Course-Major

Class/Semester- Sem-VI

Name of the Paper- (A) Discrete Mathematics & (B) Graph Theory

Units Assigned- Unit-1 & 2

Marks Assigned- 35

Class	Topic/Unit	Remarks
1	(B) Unit-1: Introduction to graph Theory & definitions	
2	Directed and undirected graphs & basic terminologies	
3	finite and infinite graph	
4	incidence and degree of vertex, isolated and pendent vertices, null graph	
5	Handshaking theorem	
6	types of graphs, sub graphs	
7	graphs isomorphism	
8	Solved examples	
9	operations of graphs	
10	Solved Examples	
11	connected graph, disconnected graphs and components	
12	Theorems on connected graph, disconnected graphs and components	
13	Unit-2: Walk, path and circuits	
14	Eulerian graphs and Hamiltonian graphs	
15	Theorems on Eulerian graphs and Hamiltonian graphs	
16	Dirac's theorem	
17	Ore's, theorem	
18	Konigsberg's Bridge problem	
19	Representation of graphs and matrix representation of graph	
20	adjacency matrix, Incidence matrix	
21	Linked representation of graphs	

DIGBOI COLLEGE, DIGBOI

Course Plan(January 2021 to June 2021)

Name of the Teacher: Mukul Buragohain

Course-Major

Class/Semester- Sem-VI

Name of the Paper- (A) Algebra-II & (B) Partial Differential Equation

Units Assigned- (A)Unit-1 & 2

Marks Assigned- 40

Class	Topic/Unit	Remarks
1	Unit-1: Automorphism of groups	
2	Solved Examples on Automorphism of groups	
3	Inner automorphism	
4	Theorems on Inner automorphism	
5	external and internal direct products	
6	Properties of external and internal direct products	
7	Theorems on external and internal direct products	
8	Definition and examples of Ring	
9	Solved examples	
10	Special kinds of rings	
11	sub rings	
12	Theorems on sub rings	
13	Ideals	
14	Theorems on ideals	
15	sum and product of ideals	
16	sum and product of ideals	
17	Quotient Ring	
18	Theorems on Quotient Ring	
19	Homomorphism of ring	
20	Properties of Homomorphism of ring	
21	Imbedding of rings	
22	Theorem on Imbedding of rings	
23	Maximal and Prime ideal	
24	Theorems on Maximal and Prime ideal	
25	Theorems on Maximal and Prime ideal	

DIGBOI COLLEGE, DIGBOI

Course Plan(January 2021 to June 2021)

Name of the Teacher: Mukul Buragohain

Course-Honours

Class/Semester-B.Com 4th Sem

Name of the Paper- Business Mathematics

Units Assigned- Unit-1

Marks Assigned- Marks not Assigned in the syllabus

Class	Topic/Unit	Remarks
1	Unit-1: Introduction to Matrix	
2	Algebra of Matrices	
3	Inverse of a Matrix	
4	Tutorial	
5	Matrix operations- Business application	
6	Tutorial	
7	Solution of system of linear equations by matrix inversion method having unique solution , involving two variables	
8	Solution of system of linear equations by matrix inversion method having unique solution , involving three variables	
9	Solution of system of linear equations by Cramer's Rule having unique solution , involving two variables	
10	Solution of system of linear equations by Cramer's Rule having unique solution , involving three variables	
11	Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan(June 2021 to December 2021)

Name of the Teacher: Mukul Buragohain

Course-Honours

Class/Semester-SEM-III

Name of the Paper- C6 (Group Theory -I)

Units Assigned- Unit-1,2,3,4 & 5

Marks Assigned-80

Class	Topic/Unit	Remarks
1	Unit-1 :Introduction to Group theory	
2	Basic definitions and operations on sets	
3	Symmetries of a square	
4	Tutorial	
5	Examples	
6	Dihedral groups	
7	Examples of Dihedral groups of various order	
8	Definition and examples of permutation groups	
9	Theorem on permutation groups	
10	Tutorial	
11	Definition and examples of quaternion groups	
12	Definition and examples of quaternion groups	
13	Definition and examples of groups	
14	Elementary properties of groups.	
15	Tutorial	
16	Basic Theorems on groups	
17	Basic Theorems on groups	
18	Solved Examples of groups	
19	Solved Examples of groups	
20	Tutorial	
21	Unit-2 : Subgroups and examples of subgroups	
22	Basic properties of subgroups	
23	Theorems on subgroups	
24	Theorems on subgroups	
25	Tutorial	
26	centralizer	
27	Theorems on centralizer	
28	normalizer	
29	Tutorial	
30	Center of a group	

31	Theorems on center of a group	
32	Theorems on center of a group	
33	product of two subgroups	
34	Theorems on product of two subgroups	
35	Tutorial	
36	Unit-3 Definition and examples of cyclic groups	
37	Definition and examples of cyclic groups	
38	Properties of cyclic groups	
39	classification of subgroups of cyclic groups	
40	Theorems on Cyclic groups	
41	Tutorial	
42	Permutations and Cycle notation for permutations	
43	properties of permutations	
44	even and odd permutations	
45	Computation of even and odd permutations	
46	alternating group	
47	Tutorial	
48	Cosets	
49	properties of cosets	
50	Theorems on cosets	
51	Tutorial	
52	Lagrange's theorem	
53	Simple application of Lagrange's theorem	
54	Fermat's Little theorem	
55	Tutorial	
56	Unit-4 External direct product	
57	Properties of External direct product	
58	Properties of External direct product	
59	Theorems on External direct product	
60	Tutorial	
61	normal subgroups	
62	Theorems on normal subgroups	
63	Theorems on normal subgroups	
64	Tutorial	
65	factor groups	
66	Theorem on factor groups	
67	Theorem on factor groups	
68	Cauchy's theorem for finite abelian groups	
69	Application of Cauchy's theorem for finite abelian groups	
70	Tutorial	
71	Unit-4 Group homomorphisms	
72	Examples of group homomorphism	
73	properties of homomorphisms	
74	Tutorial	

75	Cayley's theorem	
76	Cayley's theorem	
77	Isomorphisms and its Examples	
78	properties of isomorphisms	
79	Tutorial	
80	First isomorphism theorems	
81	Application of First isomorphism theorems	
82	second isomorphism theorems	
83	Third isomorphism theorems	
84	Application of 2 nd & 3 rd isomorphism theorems	
85	Tutorial	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher: Mukul Buragohain

Course-Honours

Class/Semester- Sem -V

Name of the Paper- Group Theory -II

Units Assigned- Unit-1,2,3

Marks Assigned-80

Class	Topic/Unit	Remarks
1	Unit-1 Automorphism	
2	Solved examples	
3	Solved examples	
4	Solved examples	
5	Tutorial	
6	Tutorial	
7	Inner automorphism	
8	Inner automorphism	
9	Theorems on inner automorphism	
10	Theorems on inner automorphism	
11	Theorems on inner automorphism	
12	Tutorial	
13	Tutorial	
14	Automorphism groups	
15	Automorphism groups	
16	Automorphism groups of finite cyclic groups	
17	Automorphism groups of finite cyclic groups	
18	Tutorial	
19	Tutorial	
20	Automorphism groups of infinite cyclic groups	
21	Automorphism groups of infinite cyclic groups	
22	Tutorial	
23	Tutorial	
24	Applications of factor groups to automorphism groups	
25	Applications of factor groups to automorphism groups	
26	Applications of factor groups to automorphism groups	
27	Applications of factor groups to automorphism groups	
28	Tutorial	

29	Tutorial	
30	Characteristic subgroups	
31	Theorems on Characteristic subgroups	
32	Theorems on Characteristic subgroups	
33	Commutator subgroup	
34	Commutator subgroup and its properties	
35	Commutator subgroup and its properties	
36	Unit-2: external direct products	
37	Properties of external direct products	
38	Properties of external direct products	
39	Properties of external direct products	
40	Properties of external direct products	
41	Properties of external direct products	
42	Tutorial	
43	the group of units modulo n as an external direct product	
44	the group of units modulo n as an external direct product	
45	the group of units modulo n as an external direct product	
46	Tutorial	
47	internal direct products	
48	Basic properties of internal direct products	
49	Basic properties of internal direct products	
50	Theorems on internal direct products	
51	Theorems on internal direct products	
52	Tutorial	
53	Tutorial	
54	Fundamental Theorem of finite abelian groups	
55	Fundamental Theorem of finite abelian groups	
56	Examples related with Fundamental Theorem of finite abelian groups	
57	Examples related with Fundamental Theorem of finite abelian groups	
58	Examples related with Fundamental Theorem of finite abelian groups	
59	Tutorial	
60	Tutorial	
61	Unit-3: Groups acting on themselves by conjugation	
62	Groups acting on themselves by conjugation	
63	class equation	
64	class equation and consequences	
65	class equation and consequences	
66	Tutorial	
67	conjugacy in S_n	

68	conjugacy in S_n	
69	Tutorial	
70	p-groups	
71	Theorems on p-groups	
72	Theorems on p-groups	
73	Theorems on p-groups	
74	Tutorial	
75	Sylow's 1 st theorems	
76	Sylow's 2 nd theorems	
77	Sylow's 3 rd theorems	
78	Tutorial	
79	Sylow's theorems and consequences	
80	Sylow's theorems and consequences	
81	Sylow's theorems and consequences	
82	Tutorial	
83	Cauchy's theorem	
84	Cauchy's theorem	
85	Simplicity of A_n for $n \geq 5$	
86	Simplicity of A_n for $n \geq 5$	
87	Tutorial	
88	non-simplicity tests	
89	non-simplicity tests	
90	Tutorial	

COURSE PLAN FOR SESSION JUNE-DECEMBER 2021

INSTRUCTOR: DR. ARJUN SINGH CHETRY

DEPARTMENT: MATHEMATICS

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Arjun Singh Chetry

Course– B.Sc. Honours

Class/Semester- Semester I

Name of the Paper- C2. Algebra

Units Assigned- Unit 1 & Unit 2

Marks Assigned- 35

Class	Topic/ Unit	Remarks
1.	Overview of the Course and the Paper (Algebra)	
2.	Complex numbers and its geometric interpretation revisited	
3.	Polar representation of complex numbers-I	
4.	Polar representation of complex numbers-II (Euler form)	
5.	Powers of complex numbers	
6.	Tutorial-I	
7.	De Moivre's theorem for rational indices (with Proof)	
8.	Application of De Moivre's theorem (n-th roots of unity)	
9.	Application of De Moivre's theorem (simplifying trigonometric identities)	
10.	Application of De Moivre's theorem (solving polynomials)	
11.	Tutorial-II	
12.	Relations (Equivalence relations)	
13.	Examples of equivalence relations	
14.	Functions (in context with relations)	
15.	Different types of functions (one-one, onto)	
16.	Tutorial-III	
17.	Composition of functions	
18.	Invertible functions	
19.	Examples & Theorems (Results)	
20.	Tutorial-IV	
21.	One to one correspondence and cardinality of a set	
22.	Cardinality of certain standard sets	
23.	Well Ordering Property of positive integers and Division Algorithm	
24.	Application of Division Algorithm (Examples)	
25.	Tutorial-V	
26.	Divisibility Properties	
27.	Theorems on Divisibility of integers	
28.	Euclidean Algorithm	

29.	Examples and Problems	
30.	GCD and LCM	
31.	Congruence relations between integers	
32.	Properties of congruences	
33.	Tutorial-V	
34.	Principles of Mathematical Induction	
35.	Examples and Problems	
36.	Fundamental theorem of Arithmetic and a glimpse into Number Theory.	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Arjun Singh Chetry

Course– B.Sc. Honours

Class/Semester- Semester III

Name of the Paper- GE-3.1 Real Analysis

Units Assigned- Unit 1 & Unit 4

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Overview of the Course and the Paper (Real Analysis)	
2.	Basic Set Theory and concept of functions revisited	
3.	Finite and Infinite Sets (with standard examples)	
4.	Examples and Problems	
5.	Countable and Uncountable Sets with examples	
6.	Tutorial-I	
7.	Real numbers $\mathbb{R}$ and its properties	
8.	Bounded Sets, Suprema and Infima with examples	
9.	Completeness property of $\mathbb{R}$ (along with sets that are not complete)	
10.	Archimedean Property of $\mathbb{R}$ and intervals (with examples)	
11.	Concept of cluster points and statement of Bolzano-Weierstrass theorem	
12.	Sequence of functions with examples	
13.	Pointwise and Uniform convergence	
14.	M_n -test (Problems)	
15.	Series of functions with examples	
16.	M -test (Problems)	
17.	Tutorial-II	
18.	Results on uniform convergence and integrability & differentiability of functions	
19.	Power Series and Radius of convergence	
20.	Examples and Problems	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Arjun Singh Chetry

Course– B.Sc. Honours

Class/Semester- Semester V

Name of the Paper- DSE 2 Number Theory

Units Assigned- Unit 1, 2 & 3(All units)

Marks Assigned- 80

Class	Topic/ Unit	Remarks
1.	Overview of the Course and the Paper (Number Theory)	
2.	Revision of Divisibility Results (from C2. Algebra)	
3.	Linear Diophantine equation I	
4.	Linear Diophantine equation II	
5.	Tutorial-I	
6.	Prime counting function and Statement of Prime Number Theorem	
7.	History of Number theory (with emphasis to Prime numbers)	
8.	Goldbach conjecture	
9.	Linear Congruences-I	
10.	Linear Congruence-II and complete set of residues	
11.	Examples and Problems	
12.	Chinese Remainder theorem with Examples	
13.	Fermat's Little Theorem with standard results	
14.	Tutorial-II	
15.	Wilson's theorem	
16.	Number theoretic functions with examples	
17.	Sum and number of divisors	
18.	Totally multiplicative functions	
19.	Dirichlet Product: Definition and Properties	
20.	The Mobius Inversion formula	
21.	Standard theorems on the mobius inversion formula	
22.	The greatest integer function with examples	
23.	Euler's phi-function	
24.	Tutorial-III	
25.	Euler's theorem with examples	
26.	Application of Euler's theorem	
27.	Reduced set of residues: Definition and Examples	
28.	Properties of the Euler's phi function-I	
29.	Properties of the Euler's phi function-II	
30.	Order of an integer modulo n (with insight to Group theory)-I	
31.	Order of an integer modulo n (with insight to Group theory)-II	

32.	Primitive roots for primes (with insight to generators of Groups)	
33.	Standard theorems on composite numbers with primitive roots-I	
34.	Standard theorems on composite numbers with primitive roots-II	
35.	Tutorial-IV	
35.	Euler's Criterion	
36.	Standard theorem on Euler's Criterion-I	
37.	Standard theorem on Euler's Criterion-II	
38.	The Legendre symbol	
39.	The Legendre symbol and its properties-I	
40.	The Legendre symbol and its properties-II	
41.	The Legendre symbol and its properties-III	
42.	Quadratic reciprocity-I	
43.	Quadratic reciprocity-II	
44.	Tutorial-V	
45.	Quadratic congruences-I	
46.	Quadratic congruences-II	
47.	Problems	
48.	Quadratic congruences with composite moduli	
49.	Examples and Problems	
50.	The equation $x^2 + y^2 = z^2$	
51.	Standard theorems	
52.	Fermat's last theorem	
53.	Standard theorems	
54.	Public key encryption	
55.	RSA encryption and decryption	

COURSE PLAN FOR SESSION JUNE-DECEMBER 2021

INSTRUCTOR: DR. BINOD CHETRY

DEPARTMENT: MATHEMATICS

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Binod Chetry

Course– B.Sc. Honours

Class/Semester- Semester I

Name of the Paper- GE-1.1 Differential Calculus

Units Assigned- Unit 2 & Unit 3(shared)

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Tangents and Normals-I	
2.	Tangents and Normals-II	
3.	Curvature	
4.	Asymptotes	
5.	Singular points	
6.	Tutorial-I	
7.	Tracing of curves	
8.	Parametric representation of curves and tracing of parametric curves-I	
9.	Parametric representation of curves and tracing of parametric curves-II	
10.	Polar coordinates and tracing of curves in polar coordinates	
11.	Tutorial-II	
12.	Taylor's series	
13.	Maclaurin's series of $\sin x$, $\cos x$	
14.	Maclaurin's series of e^x , $\log(1+x)$, $(1+x)^m$	
15.	Maxima and Minima	
16.	Indeterminate forms	
17.	Tutorial-II	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Binod Chetry

Course— B.Sc. Honours

Class/Semester- Semester III

Name of the Paper- GE-3.1 Real Analysis

Units Assigned- Unit 2 & Unit 3

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Real Sequences: Definition and Examples	
2.	Bounded Sequence: Definition and Examples	
3.	Cauchy convergence criterion for sequences	
4.	Examples and Problems	
5.	Cauchy s theorem on limits	
6.	Order preservation and squeeze theorem	
7.	Monotone sequences and their convergence	
8.	Tutorial-I	
9.	Infinite series: Definition and Examples	
10.	Cauchy convergence criterion for series	
11.	positive term series, geometric series, comparison test	
12.	Examples and Problems	
13.	convergence of p-series	
14.	Root test, Ratio test, alternating series, Leibnitz s test	
15.	Examples and Problems-I	
16.	Examples and Problems-II	
17.	Definition and examples of absolute and conditional convergence	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Binod Chetry

Course– B.Sc. Honours

Class/Semester- Semester V

Name of the Paper- C11 Multivariate Calculus

Units Assigned- Unit 1,2,3 & 4(all units)

Marks Assigned- 80

Class	Topic/ Unit	Remarks
1.	Functions of several variables	
2.	Limit and continuity of functions of two variables-i	
3.	Limit and continuity of functions of two variables-ii	
4.	Partial differentiation	
5.	Total differentiability and differentiability	
6.	Sufficient condition for differentiability	
7.	Tutorial-I	
8.	Chain rule for one and two independent parameters	
9.	Examples and problems	
10.	Directional derivatives-i	
11.	Directional derivatives-ii	
12.	The gradient	
13.	Maximal and normal property of the gradient	
14.	Tangent planes	
15.	Examples and problems	
16.	Tutorial-II	
17.	Extrema of functions of two variables-i	
18.	Extrema of functions of two variables-ii	
19.	Examples and problems	
20.	Method of lagrange multipliers-i	
21.	Method of lagrange multipliers-ii	
22.	Examples and problems	
23.	Constrained optimization problems-i	
24.	Constrained optimization problems-ii	
25.	Examples and problems	
26.	Tutorial-III	
27.	Definition of vector field (with examples)	
28.	Divergence and curl-I	
29.	Divergence and curl-II	
30.	Examples and Problems	
31.	Double integration over rectangular region	

32.	Examples and Problems	
33.	Double integration over non-rectangular region	
34.	Examples and Problems	
35.	Double integrals in polar co-ordinates	
36.	Examples and Problems	
37.	Triple integrals	
38.	Triple integral over a parallelepiped and solid regions	
39.	Examples and Problems	
40.	Tutorial IV	
41.	Volume by triple integrals-I	
42.	Volume by triple integrals-II	
43.	Examples and Problems	
44.	Cylindrical coordinates	
45.	Spherical coordinates	
46.	Tutorial-V	
47.	Change of variables in double integrals	
48.	Change of variables in triple integrals	
49.	Examples and Problems	
50.	Line integrals: Definition and Examples	
51.	Applications of line integrals-I	
52.	Applications of line integrals-II	
53.	Fundamental theorem for line integrals-I	
54.	Fundamental theorem for line integrals-II	
55.	Problems	
56.	Tutorial-VI	
57.	Conservative vector fields	
58.	Independence of path	
59.	Green's theorem-I	
60.	Green's theorem-II	
61.	Green's theorem-III	
62.	Surface integrals-I	
63.	Surface integrals-II	
64.	Examples and Problems	
65.	Integrals over parametrically defined surfaces-I	
66.	Integrals over parametrically defined surfaces-II	
67.	Tutorial-VII	
68.	Stoke's theorem-I	
69.	Stoke's theorem-II	
70.	The Divergence theorem-I	
71.	The Divergence theorem-II	
72.	Examples and Problems	

COURSE PLAN FOR SESSION JUNE-DECEMBER 2021

INSTRUCTOR: DR. BISWAJIT DAS

DEPARTMENT: MATHEMATICS

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Biswajit Das

Course– B.Sc. Honours

Class/Semester- Semester I

Name of the Paper- C2. Algebra

Units Assigned- Unit 3 & Unit 4

Marks Assigned- 45

Class	Topic/ Unit	Remarks
1.	Systems of linear equations-I	
2.	Systems of linear equations-II	
3.	Examples and Problems	
4.	row reduction and echelon forms-I	
5.	row reduction and echelon forms-II	
6.	Tutorial-I	
7.	vector equations with examples	
8.	The matrix equation $Ax=b$	
9.	The matrix equation $Ax=b$ contd.	
10.	Examples and Problems	
11.	Solution set of Linear Systems-I	
12.	Solution set of Linear Systems-II	
13.	Examples and Problems-I	
14.	Tutorial-II	
15.	Application of Linear Systems-I	
16.	Application of Linear Systems-II	
17.	Examples and Problems	
18.	Linear Independence of vectors-I	
19.	Linear Independence of vectors-II	
20.	Tutorial-III	
21.	Linear Transformations: Definition and examples	
22.	Linear Transformations-II	
23.	Problems	
24.	Matrix of a linear transformation: Definition and examples	
25.	Matrix of a linear transformation-II	
26.	Problems	
27.	Inverse of a matrix-I	
28.	Inverse of a matrix-II	
29.	Characterizations of invertible matrices	

30.	Standard results	
31.	Tutorial-IV	
32.	Subspaces of R^n -I	
33.	Subspaces of R^n -II	
34.	Problems	
35.	Dimension of subspaces of R^n and rank of a matrix	
36.	Dimension of subspaces of R^n and rank of a matrix-II	
37.	Tutorial-V	
38.	Eigen values: Definition and examples	
39.	Eigen vectors and Characteristic equation of a matrix-I	
40.	Eigen vectors and Characteristic equation of a matrix-II	
41.	Eigen vectors and Characteristic equation of a matrix-III	
42.	Tutorial-VI	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Biswajit Das

Course– B.Sc. Honours

Class/Semester- Semester I

Name of the Paper- GE-1.1 Differential Calculus

Units Assigned- Unit 1 & Unit 3(shared)

Marks Assigned- 40

Class	Topic/ Unit	Remarks
1.	Limits (ϵ and δ definition)-I	
2.	Limits-II with examples	
3.	Continuity (ϵ and δ definition)-I	
4.	Continuity-II with examples	
5.	Types of discontinuities	
6.	Differentiability of functions	
7.	Tutorial-I	
8.	Successive differentiation	
9.	Leibnitz's Theorem	
10.	Partial Differentiation	
11.	Euler's theorem on homogeneous functions	
12.	Tutorial-II	
13.	Rolle's theorem	
14.	Mean Value theorems	
15.	Taylor's theorem with Lagrange's forms of remainder	
16.	Taylor's theorem with Cauchy's forms of remainder	
17.	Tutorial-III	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Biswajit Das

Course– B.Sc. Honours

Class/Semester- Semester III

Name of the Paper- C5. Theory of Real functions

Units Assigned- Unit 1,2 &3(all units)

Marks Assigned- 80

Class	Topic/ Unit	Remarks
1.	Limits of functions	
2.	Sequential criterion for limits	
3.	Divergence criteria	
4.	Examples and Problems	
5.	Limit theorems-I	
6.	Limit theorems-II	
7.	Limit theorems-III	
8.	One sided limits	
9.	Examples and Problems	
10.	Infinite limits and limits at infinity-I	
11.	Infinite limits and limits at infinity-II	
12.	Tutorial-I	
13.	Continuous functions: Definition and Examples	
14.	Sequential criterion for continuity and discontinuity	
15.	Standard theorems	
16.	Algebra of continuous functions-I	
17.	Algebra of continuous functions-II	
18.	Continuous functions on an interval-I	
19.	Continuous functions on an interval-II	
20.	Tutorial-II	
21.	Intermediate value theorem	
22.	Location of roots theorem	
23.	Examples and Problems	
24.	Preservation of intervals theorem	
25.	Standard theorems	
26.	Tutorial-III	
27.	Uniform continuity	
28.	Non-uniform continuity criteria	
29.	Uniform continuity theorem	
30.	Tutorial-IV	
31.	Differentiability of a function at a point: Definition and examples	

32.	Differentiability of a function at an interval	
33.	Standard theorems	
34.	Caratheodory's theorem	
35.	Algebra of differentiable functions-I	
36.	Algebra of differentiable functions-II	
37.	Relative extrema	
38.	Interior extremum theorem	
39.	Tutorial-V	
40.	Rolle's theorem	
41.	Mean value theorem	
42.	Intermediate value property of derivatives	
43.	Darboux's theorem	
44.	Examples and Problems	
45.	Applications of mean value theorem to inequalities-I	
46.	Applications of mean value theorem to inequalities-II	
47.	Approximation of polynomials-I	
48.	Approximation of polynomials-II	
49.	Examples and Problems	
50.	Tutorial-VI	
51.	Taylor's theorem to inequalities-I	
52.	Taylor's theorem to inequalities-II	
53.	Taylor's theorem to inequalities-III	
54.	Cauchy's mean value theorem-I	
55.	Cauchy's mean value theorem-II	
56.	Taylor's theorem with Lagrange's form of remainder-I	
57.	Taylor's theorem with Lagrange's form of remainder-II	
58.	Examples and Problems	
59.	Taylor's theorem with Cauchy's form of remainder-I	
60.	Taylor's theorem with Cauchy's form of remainder-II	
61.	Examples and Problems	
62.	application of Taylor's theorem to convex functions-I	
63.	application of Taylor's theorem to convex functions-II	
64.	relative extrema-I	
65.	relative extrema-II	
66.	Tutorial-VII	
67.	Taylor's series and Maclaurin's series expansions of exponential and trigonometric functions-I	
68.	Taylor's series and Maclaurin's series expansions of exponential and trigonometric functions-II	
69.	Taylor's series and Maclaurin's series expansions of exponential and trigonometric functions-III	
70.	Problems	
71.	Tutorial-VIII	

Department of Physics

COURSE PLAN

Name of the Teacher: DR. DEEP KUMAR KURI

Department of Physics

Period: July-December 2020

1) Paper: Mechanics (PHYSICS - C II) – B.Sc. 1st Semester (H)

Unit	Class	Topic	Remarks
Unit 1 Fundamentals of Dynamics	1	Reference frames. Inertial frames	
	2	Review of Newton's Laws of Motion. Galilean transformations	
	3	Galilean invariance. Momentum of variable-mass system: motion of rocket	
	4	Motion of a projectile in Uniform gravitational field Dynamics of a system of particles	
	5	Centre of Mass	
	6	Principle of conservation of momentum. Impulse.	

	Unit 2 Work and Energy	1	Work and Kinetic Energy Theorem, Conservative and non-conservative forces. Potential Energy.		
		2	Energy diagram. Stable and unstable equilibrium, Elastic potential energy.		
		3	Force as gradient of potential energy. Work & Potential energy.		
		4	Work done by non-conservative forces. Law of conservation of Energy.		
	Unit 3 Collisions	1	Elastic collisions between particles		
		2	Inelastic collisions between particles		
		3	Centre of Mass and laboratory frame		
	Unit 4 Rotational Dynamics	1	Angular momentum of particles and system of particles		
		2	Torque		
		3	Principle of conservation of angular momentum		
		4	Rotation about a fixed axis		
		5	Moment of Inertia		
		6	Calculation of moment of inertia for rectangular bodies		

		7	Calculation of moment of inertia for cylindrical bodies		
		8	Calculation of moment of inertia for cylindrical bodies (continued)		
		9	Calculation of moment of inertia for spherical bodies		
		10	Calculation of moment of inertia for spherical bodies (continued)		
		11	Kinetic energy of rotation		
		12	Motion involving both translation and rotation		
	Unit 5 Elasticity	1	Relation between Elastic constants		
		2	Twisting torque on a Cylinder or Wire		

2) Paper: Thermal Physics (PHYSICS - C VI) - B.Sc. 3rd Semester (H)

Unit	Class	Topic	Remarks
Unit 1	1	Extensive and intensive Thermodynamic Variables, Thermodynamic Equilibrium	

	Zeroth and First Law of Thermodynamics	2	Zeroth Law of Thermodynamics & Concept of Temperature, Concept of Work & Heat		
		3	State Functions, First Law of Thermodynamics and its differential form		
		4	Internal Energy		
		5	First Law & various processes		
		6	General Relation between CP and CV		
		7	Work Done during Isothermal and Adiabatic Processes		
		8	Compressibility and Expansion Coefficient		
	Unit 2 Second Law of Thermodynamics	1	Reversible and Irreversible process with examples		
		2	Conversion of Work into Heat and Heat into Work		
		3	Heat Engines		
		4	Carnot's Cycle		
		5	Carnot engine & efficiency		

		6	Refrigerator & coefficient of performance		
		7	2 nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence		
		8	2 nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence (continued)		
		9	Carnot's Theorem		
		10	Applications of Second Law of Thermodynamics: Thermodynamic Scale of Temperature and its Equivalence to Perfect Gas Scale		
	Unit 3 Entropy	1	Concept of Entropy, Clausius Theorem, Clausius Inequality		
		2	Second Law of Thermodynamics in terms of Entropy, Entropy of a perfect gas		
		3	Principle of Increase of Entropy		
		4	Entropy Changes in Reversible and Irreversible processes with examples, Entropy of the Universe		
		5	Principle of Increase of Entropy		
		6	Temperature–Entropy diagrams for Carnot's Cycle		

		7	Third Law of Thermodynamics. Unattainability of Absolute Zero		
	Unit 4 Thermodynamic Potentials	1	Thermodynamic Potentials: Internal Energy, Enthalpy		
		2	Helmholtz Free Energy, Gibb's Free Energy		
		3	Surface Films and Variation of Surface Tension with Temperature		
		4	Magnetic Work		
		5	Cooling due to adiabatic demagnetization		
		6	First and second order Phase Transitions with examples		
		7	Clausius Clapeyron Equation and Ehrenfest equations		
	Unit 5 Maxwell's Thermodynamic Relations	1	Derivations and applications of Maxwell's Relations		
		2	Clausius Clapeyron equation		
		3	Values of $C_p - C_v$		
		4	TdS Equations		
		5	Joule-Kelvin coefficient for Ideal and Van der Waal Gases		
		6	Energy equations		
		7	Change of Temperature during Adiabatic Process		
	Unit 6	1	Maxwell-Boltzmann Law of Distribution of Velocities in an Ideal Gas and its Experimental Verification		

	Kinetic Theory of Gases Distribution of Velocities	2	Doppler Broadening of Spectral Lines and Stern's Experiment		
		3	Mean Speed		
		4	RMS and Most Probable Speeds		
		5	Degrees of Freedom		
		6	Law of Equipartition of Energy		
		7	Specific heats of Gases		
	Unit 7 Molecular Collisions	1	Mean Free Path, Collision Probability, Estimates of Mean Free Path		
		2	Viscosity, Thermal Conductivity		
		3	Diffusion		
		4	Brownian Motion and its Significance		
	Unit 8 Real Gases	1	Behavior of Real Gases: Deviations from the Ideal Gas Equation		
		2	The Virial Equation. Andrew's Experiments on CO ₂ Gas.		
		3	Critical Constants		
		4	Continuity of Liquid and Gaseous State, Vapour and Gas		
		5	Boyle Temperature		
		6	Van der Waal's Equation of State for Real Gases		
		7	Values of Critical Constants. Law of Corresponding States. Comparison with Experimental Curves		

		8	P-V Diagrams. Joule's Experiment. Free Adiabatic Expansion of a Perfect Gas.	
		9	Joule-Thomson Porous Plug Experiment. Joule- Thomson Effect for Real and Van der Waal Gases.	
		10	Temperature of Inversion. Joule- Thomson Cooling	

3) Paper: Electrodynamics and Special Relativity (PHYM-502) – NCBCS - B.Sc. 5th Semester (M)

Unit	Class	Topic	Remarks
Unit 1 Electromagnetic Fields	1	Electromagnetic induction	
	2	Displacement current	
	3	Maxwell's field equations and their interpretations	
	4	Integral and differential forms of Maxwell's field equations	
	5	Electromagnetic potentials	
	6	Derivation of Maxwell's wave equations	
	7	Waves in free space	
	8	Relation between wave vector and fields	
	9	Scalar and vector potential	

		10	Lorentz and Coulomb gauge	
		11	Field energy and field momentum	
		12	Poynting vector and	
		13	Poynting theorem	
		14	Radiation from accelerated charge	
		15	Radiation from electric dipole	
	Unit 2 Propagation of electromagnetic waves	1	Plane waves in non-conducting media	
		2	Polarization of EM waves	
		3	plane waves in a conducting medium	
		4	skin effect	
		5	Boundary conditions	
		6	Reflection and refraction of a plane wave at a plane interface at normal incidence	
		7	Reflection and refraction of a plane wave at a plane interface at oblique incidence	
		8	Fresnel's formula	
		9	Total internal reflection	
		10	Brewster's angle	

4) Paper: Atomic and Molecular Physics (PHYM-503) – NCBCS - B.Sc. 5th Semester (M)

Unit	Class	Topic	Remarks
Unit 1 Quantum Theory of Atoms	1	Background of Quantum Theory	
	2	Bohr's model of the hydrogen atom	
	3	Origin of spectral lines	
	4	Bohr's correspondence principle	
	5	Sommerfeld's atom model	
	6	Sommerfeld's atom model (continued)	
	7	Designation of spectral term symbol	
	8	Vector atom model	
	9	Vector atom model (continued)	
	10	space quantization	
	11	Larmor precession	
	12	the four quantum numbers	
	13	L-S coupling	
	14	J-J coupling	
	15	Selection rules	
Unit 2 Fine structures of atoms	1	Fine structure of hydrogen spectra	
	2	Doublet spectra of Na-atom	
	3	Gyromagnetic ratio for orbital motion	
	4	Gyromagnetic ratio for spin motion	

		5	Lande's 'g' factor	
		6	Lande's 'g' factor (continued)	
		7	Normal Zeeman Effect	
		8	Normal Zeeman Effect (continued)	
		9	Anomalous Zeeman Effect	
		10	Anomalous Zeeman Effect (continued)	
		11	Qualitative ideas of Stark effect	

5) Paper: Thermal Physics and Statistical Mechanics (PHYSICS – GE - 3) - B.Sc. 3rd Semester (G)

Unit	Class	Topic	Remarks
Unit 1 Laws of Thermodynamics	1	Zeroth Law of thermodynamics and temperature	
	2	First law and internal energy	
	3	First law and internal energy (continued)	
	4	Conversion of heat into work	
	5	Various Thermodynamical Processes	
	6	Various Thermodynamical Processes (continued)	

		7	Applications of First Law: General Relation between CP and CV		
		8	Applications of First Law: General Relation between CP and CV (continued)		
		9	Work Done during Isothermal and Adiabatic Processes		
		10	Work Done during Isothermal and Adiabatic Processes (continued)		
		11	Compressibility and Expansion Coefficient		
		12	Compressibility and Expansion Coefficient (continued)		
		13	Reversible and irreversible processes		
		14	Second law and Entropy		
		15	Second law and Entropy (continued)		
		16	Carnot's cycle & theorem		
		17	Carnot's cycle & theorem (continued)		
		18	Entropy changes in reversible processes		

		19	Entropy changes in irreversible processes		
		20	Entropy-temperature diagrams		
		21	Third law of thermodynamics		
		22	Unattainability of absolute zero		
	Unit 2 Thermodynamic Potentials	1	Enthalpy		
		2	Gibbs		
		3	Helmholtz and Internal Energy functions		
		4	Maxwell's relations and applications		
		5	Maxwell's relations and applications (continued)		
		6	Joule-Thompson Effect		
		7	Clausius-Clapeyron Equation		
		8	Expression for $(C_P - C_V)$		
		9	Expression for C_P/C_V		
		10	TdS equations		
	Unit 3 Kinetic Theory of Gases	1	Derivation of Maxwell's law of distribution of velocities and its experimental verification		
		2	Mean free path (Zeroth Order)		

		3	Transport Phenomena: Viscosity		
		4	Transport Phenomena: Viscosity (continued)		
		5	Conduction		
		6	Diffusion (for vertical case)		
		7	Diffusion (for vertical case) (continued)		
		8	Law of equipartition of energy		
		9	Applications to specific heat of gases		
		10	Monoatomic and diatomic gases.		
	Unit 5 Statistical Mechanics	1	Phase space		
		2	Macrostate and Microstate		
		3	Entropy and Thermodynamic probability		
		4	Maxwell Boltzmann law - distribution of velocity		
		5	Maxwell Boltzmann law - distribution of velocity (continued)		
		6	Quantum statistics		
		7	Fermi-Dirac distribution law		

		8	Fermi-Dirac distribution law (continued)	
		9	Electron gas	
		10	Bose-Einstein distribution law	
		11	Photon gas	
		12	Comparison of three statistics	

6) Paper: Quantum Mechanics (PH-C-II) - M.Sc. 1st Semester

Unit	Class	Topic	Remarks
Unit 1 Fundamental Concepts	1	Overview of wave mechanics	
	2	Schrödinger equation	
	3	Particle in a box	
	4	Simple harmonic oscillator	
	5	Simple harmonic oscillator (continued)	
	6	Hydrogen atom	
	7	Hydrogen atom (continued)	
	8	The Stern Gerlach Experiment	
	9	Kets and Bras	
	10	Operators	
	11	Base Kets and Matrix Representations	

		12	Base Kets and Matrix Representations (continued)		
		13	Measurements, Observables		
		14	Uncertainty Relations		
		15	Change of basis		
		16	Position, momentum and translation		
		17	Wave functions in position space		
		18	Wave functions in position space (continued)		
		19	Wave functions in momentum space		
		20	Wave functions in momentum space (continued)		
	Unit 2 Quantum Dynamics	1	Time evolution and the Schrödinger equation		
		2	Time evolution and the Schrödinger equation (continued)		
		3	The Schrödinger picture		
		4	The Schrödinger picture (continued)		
		5	The Heisenberg picture		
		6	The Heisenberg picture (continued)		

		7	Time evolution of the simple harmonic oscillator		
		8	Time evolution of the simple harmonic oscillator (continued)		
		9	Time evolution of the simple harmonic oscillator (continued)		
		10	Time independent perturbation theory: Non degenerate case		
		11	Time independent perturbation theory: Non degenerate case (continued)		
		12	Time independent perturbation theory: Degenerate case		
		13	Time independent perturbation theory: Degenerate case (continued)		
		14	Hydrogen like atoms: Fine structure		
		15	Hydrogen like atoms: Fine structure (continued)		
		16	Hydrogen like atoms: Zeeman Effect		
		17	Hydrogen like atoms: Zeeman Effect (continued)		
		18	Variational methods		

		19	Variational methods (continued)		
		20	Variational methods (continued)		
		21	Time dependent potentials: the Interaction picture		
		22	Time dependent potentials: the Interaction picture (continued)		
		23	Time dependent perturbation theory		
		24	Time dependent perturbation theory (continued)		
		25	Time dependent perturbation theory (continued)		
		26	Applications to Interactions with Classical Radiation field		
		27	Applications to Interactions with Classical Radiation field (continued)		
		28	WKB Approximation		
		29	WKB Approximation (continued)		
		30	WKB Approximation (continued)		
	Unit 3	1	Symmetries		
		2	Conservation laws and Degeneracy		
		3	Space and Time displacements		

Symmetry in Quantum Mechanics	4	Rotation	
	5	Angular Momentum and Unitary groups	
	6	commutation relations	
	7	Density operators and Pure versus Mixed Ensembles	
	8	Eigenvalues and Eigenstates of Angular Momentum	
	9	Addition of Angular momentum	
	10	Clebsch Gordon Coefficients	

7) Paper: Electrodynamics (PH-C-VIII) - M.Sc. 3rd Semester

Unit	Class	Topic	Remarks
Unit 1	1	Propagation of electromagnetic waves in different media	
	2	Dispersion	
	3	Frequency dependence of σ , μ and ϵ	
	4	Frequency dependence of σ , μ and ϵ (continued)	Tutorial
	5	Dispersion in non-conductors	

		6	Dispersion in non-conductors (continued)	Tutorial	
		7	Anomalous dispersion	Tutorial	
		8	Free electrons in conductors and plasma		
		9	Wave Guides		
		10	TE waves in rectangular wave guide		
		11	TE waves in rectangular wave guide (continued)	Tutorial	
		12	Coaxial transmission lines		
		13	Boundary value problems in spherical coordinate		
	Unit 2	1	Electromagnetic radiation: Retarded potentials		
		2	Electromagnetic radiation: Retarded potentials (continued)	Tutorial	
		3	Electric dipole radiation		
		4	Electric dipole radiation (continued)	Tutorial	
		5	Radiation from an arbitrary distribution of charges and current		

		6	Radiation from an arbitrary distribution of charges and current (continued)	Tutorial	
		7	Lienard-Wiechert potentials		
		8	Lienard-Wiechert potentials (continued)	Tutorial	
		9	Fields due to uniformly moving charge		
		10	Fields due to uniformly moving charge (continued)	Tutorial	
		11	Fields due to accelerated charge		
		12	Fields due to accelerated charge (continued)	Tutorial	
		13	Linear and circular acceleration		
		14	Linear and circular acceleration (continued)	Tutorial	
		15	Angular distribution of radiated power		
		16	Angular distribution of radiated power (continued)	Tutorial	
		17	Bremhstrahlung and Synchrotron radiation		

		18	Bremhstrahlung and Synchrotron radiation (continued)	Tutorial	
		19	Radiation reaction		
		20	Radiation reaction (continued)		
		21	Abraham-Lorentz formula		
		22	Abraham-Lorentz formula (continued)	Tutorial	
	Unit 3	1	Structure of space-time		
		2	Structure of space-time (continued)		
		3	Structure of space-time (continued)	Tutorial	
		4	Four vectors and Lorentz transformation		
		5	Four vectors and Lorentz transformation (continued)	Tutorial	
		6	Four vectors and Lorentz transformation (continued)		
		7	Proper time and velocity		
		8	Proper time and velocity (continued)	Tutorial	
		9	Relativistic energy and momentum		
		10	Relativistic energy and momentum (continued)		

		11	Relativistic energy and momentum (continued)	Tutorial	
		12	Magnetism as relativistic phenomena		
		13	Magnetism as relativistic phenomena (continued)	Tutorial	
		14	Potential formulation of relativistic electrodynamics		
		15	Potential formulation of relativistic electrodynamics (continued)	Tutorial	
		16	Potential formulation of relativistic electrodynamics (continued)	Tutorial	
		17	Electromagnetic field tensor		
		18	Electromagnetic field tensor (continued)	Tutorial	
		19	Electromagnetic field tensor (continued)		
		20	Dual tensor		
		21	Dual tensor (continued)	Tutorial	
		22	Dual tensor (continued)		
		23	Covariant formulation of electrodynamics		

		24	Covariant formulation of electrodynamics (continued)	Tutorial
		25	Covariant formulation of electrodynamics (continued)	

Period: January-June 2021

1) Paper: Electricity and Magnetism (PHYSICS – C III) - B.Sc. 2nd Semester (H)

Unit	Class	Topic	Remarks
Unit 3 Magnetic Field	1	Magnetic force between current elements and definition of Magnetic Field B	
	2	Biot-Savart's Law and its simple applications: straight wire and circular loop	
	3	Current Loop as a Magnetic Dipole and its Dipole Moment	
	4	Ampere's Circuital Law and its application to (1) Solenoid and (2) Toroid.	
	5	Properties of B : curl and divergence.	

		6	Vector Potential		
		7	Magnetic Force on (1) point charge (2) current carrying wire		
		8	Magnetic Force between current elements		
		9	Torque on a current loop in a uniform Magnetic, Field		
	Unit 4 Magnetic Properties of Matter	1	Magnetization vector (M). Magnetic Intensity (H).		
		2	Magnetic Susceptibility and permeability		
		3	Relation between B, H, M		
		4	Ferromagnetism. B-H curve and hysteresis		
	Unit 5 Electromagnetic Induction	1	Faraday's Law. Lenz's Law.		
		2	Self-Inductance and Mutual Inductance		
		3	Reciprocity Theorem		
		4	Energy stored in a Magnetic Field.		
		5	Introduction to Maxwell's Equations		

	6	Charge Conservation and Displacement current.	

2) Paper: Elements of Modern Physics (PHYSICS – C IX) - B.Sc. 4th Semester (H)

Unit	Class	Topic	Remarks
Unit 1	1	Planck's constant and light as a collection of photons	
	2	Blackbody Radiation: Quantum theory of Light	
	3	Photo-electric effect	
	4	Photo-electric effect (continued)	
	5	Compton scattering	
	6	Compton scattering (continued)	
	7	De Broglie wavelength and matter waves	
	8	Davisson-Germer experiment	
	9	Wave description of particles by wave packets	
	10	Wave description of particles by wave Packets (continued)	

		11	Group and Phase velocities and relation between them		
		12	Two-Slit experiment with electrons		
		13	Wave amplitude and wave functions		
		14	Probability		
	Unit 2	1	Position measurement- gamma ray microscope thought experiment		
		2	Wave-particle duality, Heisenberg uncertainty principle		
		3	Derivation from Wave Packets impossibility of a particle following a trajectory		
		4	Estimating minimum energy of a confined particle using uncertainty principle		
		5	Energy-time uncertainty principle application to virtual particles and range of an interaction.		
	Unit 3	1	Two slit interference experiment with photons, atoms and particles		

		2	linear superposition principle as a consequence		
		3	Matter waves and wave amplitude		
		4	Schrodinger equation for non-relativistic particles		
		5	Momentum and Energy operators		
		6	stationary states		
		7	physical interpretation of a wave function		
		8	probabilities and normalization		
		9	Probability and probability current densities in one dimension		
		10	Probability and probability current densities in one dimension (continued)		
	Unit 4	1	One dimensional infinitely rigid box		
		2	Energy eigen values and eigen functions		
		3	Normalization		
		4	Quantum dot		
		5	Quantum mechanical scattering in one dimension-across a step potential		

		6	Tunneling in one dimension-across a step potential		
		7	Quantum mechanical scattering in one dimension- across a rectangular potential barrier		
		8	Quantum mechanical scattering in one dimension- across a rectangular potential barrier (continued)		
		9	Tunneling in one dimension- across a rectangular potential barrier		
		10	Tunneling in one dimension- across a rectangular potential barrier (continued)		
	Unit 5	1	Size and structure of atomic nucleus and its relation with atomic weight		
		2	Impossibility of an electron being in the nucleus as a consequence of the uncertainty principle		
		3	Nature of nuclear force		
		4	NZ graph		

		5	Liquid Drop model: semi-empirical mass formula and binding energy		
		6	Nuclear Shell Model and magic numbers		
	Unit 6	1	Radioactivity		
		2	stability of the nucleus		
		3	Law of radioactive decay		
		4	Mean life and half-life		
		5	Alpha decay, Beta decay- energy released		
		6	spectrum and Pauli's prediction of neutrino, Gamma ray emission		
		7	Energy-momentum conservation: electron-positron pair creation by gamma photons in the vicinity of a nucleus		
		8	Energy-momentum conservation: electron-positron pair creation by gamma photons in the vicinity of a nucleus (continued)		

	Unit 7	1	Fission and fusion- mass deficit, relativity and generation of energy; Fission - nature of fragments and emission of neutrons.	
		2	Nuclear reactor: slow neutrons interacting with Uranium 235	
		3	Fusion and thermonuclear reactions driving stellar energy	
	Unit 8	1	Einstein's A and B coefficients, Metastable states	
		2	Spontaneous and Stimulated emissions	
		3	Optical Pumping and Population Inversion	
		4	Three-Level and Four-Level Lasers, Ruby Laser and He-Ne Laser. Basic lasing.	

3) Paper: Statistical Mechanics (PHYM-601) – NCBCS - B.Sc. 6th Semester (M)

Unit	Class	Topic	Remarks
Unit 1	1	Postulates of classical statistical mechanics	

	Classical statistical physics	2	Phase space		
		3	Liouville's theorem		
		4	Micro canonical ensemble		
		5	Canonical ensemble		
		6	Grand canonical ensemble		
		7	Maxwell Boltzmann (MB) distribution laws		
		8	Maxwell Boltzmann (MB) distribution laws (continued)		
		9	Thermodynamic interpretation of the Lagrange's undetermined multipliers appearing in the distribution laws		
		10	Thermodynamic interpretation of the Lagrange's undetermined multipliers appearing in the distribution laws contd..		
	Unit 2 Entropy and partition function	1	Statistical definition of entropy		
		2	Boltzmann relation between entropy and probability		
		3	Equilibrium condition		
		4	Partition function		

		5	Partition function (continued)		
		6	thermodynamic variables in terms of partition function		
		7	Calculation of partition function for an ideal monatomic gas		
		8	Calculation of partition function for an ideal monatomic gas (continued)		
	Unit 3 Quantum statistical physics	1	Limitation of Maxwell-Boltzmann distribution law		
		2	basic postulates of quantum statistical mechanics		
		3	classical limit		
		4	symmetry of wave function of two particles		
		5	distribution laws for distinguishable and indistinguishable particles		
		6	Fermi-Dirac (FD) distribution functions		
		7	Fermi-Dirac (FD) distribution functions (continued)		

		8	Bose Einstein (BE) distribution functions		
		9	Bose Einstein (BE) distribution functions (continued)		
		10	reduction of FD and BE statistics to MB statistics		
	Unit 4 Applications of quantum statistical mechanics	1	Application of Bose-Einstein distribution law to an ideal Bose gas		
		2	Application of Bose-Einstein distribution law to an ideal Bose gas (continued)		
		3	Photons as an ideal Bose gas		
		4	Photons as an ideal Bose gas (continued)		
		5	Derivation of Planck's law of blackbody radiation		
		6	Derivation of Planck's law of blackbody radiation (continued)		
		7	Stefan's law		
		8	Bose- Einstein condensation		

		9	Bose- Einstein condensation (continued)	
		10	application of Fermi-Dirac statistics to white dwarf stars	
		11	Chandrasekhar limit	
		12	Chandrasekhar limit (continued)	

4) Paper: Classical Mechanics (PH-C-IV) - M.Sc. 2nd Semester

Unit	Class	Topic	Remarks
Unit 1	1	Review of Newtonian mechanics, Mechanics of a system of particles	
	2	Constraints of motion and their classification, Generalised co- ordinates	
	3	D' Alembert's principle, Lagrange's equations of motion	
	4	Hamilton's principle, Symmetries and conservation theorems	
	5	Cyclic coordinates. Flows in phase space	

		6	solvable vs integrable, equilibria and linear stability theory		
		7	Bifurcations in Hamiltonian systems		
		8	Bifurcations in Hamiltonian systems (continued)		
	Unit 2	1	Motion in a central potential		
		2	Maps		
		3	winding numbers and orbital stability		
		4	Hidden symmetry in the Kepler problem		
		5	Small Oscillations		
		6	Solution of one-dimensional harmonic oscillator problem		
		7	Forced oscillations in one dimension		
		8	Damped harmonic motion in one dimension general solution of the problem		
		9	Displacement as a function of time		
		10	Systems with many degrees of freedom		

		11	Eigen value equation and normal co-ordinates		
		12	Integrable and chaotic oscillations		
		13	Return maps		
		14	Area preserving maps		
		15	Deterministic chaos		
	Unit 5	1	Noncanonical flows, flows on spheres		
		2	Local vs complete integrability		
		3	Globally integrable noncanonical flows		
		4	Attractors		
		5	Damped driven Euler-Lagrange dynamics		
		6	Liapunov exponents, Geometry and integrability		
		7	Damped driven Newtonian systems, period doubling		
		8	Fractal and multifractal orbits in phase space		
		9	Strange attractors		
		10	The two frequency problem		

5) Paper: Statistical Mechanics (PH-C-XI) - M.Sc. 4th Semester

Unit	Class	Topic	Remarks
Unit 1 Introduction and formulation of quantum Statistics	1	Historical introduction of statistical mechanics	
	2	Ergodic hypothesis	
	3	Ensembles	
	4	Partition function	
	5	Grand partition function	Tutorial
	6	Postulates of quantum statistical mechanics	
	7	Density matrix	
	8	Pure and mixed states	
	9	Density matrix	Tutorial
	10	Partition function of a system of free particles	
	11	Classical limit of the partition function	Tutorial
	12	BE and FD statistics	
Unit 2	1	Ideal Bose gases	
	2	Ideal Bose gases (continued)	
	3	Ideal Bose gases (continued)	Tutorial

	Ideal Bose and Fermi systems	4	Bose-Einstein condensation		
		5	Bose-Einstein condensation (continued)		
		6	Bose-Einstein condensation (continued)	Tutorial	
		7	Thermodynamic behaviour of an ideal Fermi gas		
		8	Thermodynamic behaviour of an ideal Fermi gas (continued)		
		9	Pauli paramagnetism		
		10	Pauli paramagnetism (continued)		
		11	Landau diamagnetism		
		12	Landau diamagnetism (continued)	Tutorial	
		13	Landau diamagnetism (continued)		
	Unit 3 Statistical Mechanics of Interacting systems	1	Clusters		
		2	Clusters (continued)		
		3	Classical cluster expansion		
		4	Classical cluster expansion (continued)	Tutorial	
		5	Formalism of second quantization		

		6	Formalism of second quantization (continued)		
		7	Formalism of second quantization (continued)	Tutorial	
		8	Creation and annihilation operators and their properties for bosons and fermions (continued)		
		9	Creation and annihilation operators and their properties for bosons and fermions (continued)		
		10	Hamiltonian in terms of second quantized operators		
		11	Hamiltonian in terms of second quantized operators (continued)	Tutorial	
		12	Hamiltonian in terms of second quantized operators (continued)		
		13	Imperfect Bose and Fermi gases		
		14	Imperfect Bose and Fermi gases (continued)		
		15	Imperfect Bose and Fermi gases (continued)	Tutorial	

	Unit 4 Phase transitions	1	Dynamical model of phase transition		
		2	The Ising model (one dimension)		
		3	The Ising model (one dimension) (continued)	Tutorial	
		4	Liquid helium		
		5	He-4 and He-3		
		6	The lambda-transition		
		7	Tisza's two-fluid model		
		8	The theories of Landau and Feynman		
		9	Equilibrium properties near absolute zero	Tutorial	
		10	Superfluidity		
	Unit 5 Fluctuations	1	Mean square deviation		
		2	Fluctuation in ensembles		
		3	Thermodynamic fluctuations		
		4	Thermodynamic fluctuations (continued)	Tutorial	
		5	Spatial correlation in a fluid		
		6	Spatial correlation in a fluid (continued)		

		7	Einstein-Smoluchowski theory of Brownian motion	
		8	Einstein-Smoluchowski theory of Brownian motion (continued)	Tutorial
		9	Approach to equilibrium: the Fokker-Planck equation	
		10	Approach to equilibrium: the Fokker-Planck equation (continued)	Tutorial

Period: July-December 2021

1) Paper: Mechanics (PHYSICS - C II) - B.Sc. 1st Semester (H)

Unit	Class	Topic	Remarks
Unit 1 Fundamentals of Dynamics	1	Reference frames. Inertial frames	
	2	Review of Newton's Laws of Motion. Galilean transformations	
	3	Galilean invariance. Momentum of variable-mass system: motion of rocket	
	4	Motion of a projectile in	

			Uniform gravitational field Dynamics of a system of particles		
		5	Centre of Mass		
		6	Principle of conservation of momentum. Impulse.		
	Unit 2 Work and Energy	1	Work and Kinetic Energy Theorem, Conservative and non-conservative forces. Potential Energy.		
		2	Energy diagram. Stable and unstable equilibrium, Elastic potential energy.		
		3	Force as gradient of potential energy. Work & Potential energy.		
		4	Work done by non-conservative forces. Law of conservation of Energy.		
	Unit 3 Collisions	1	Elastic collisions between particles		
		2	Inelastic collisions between particles		
		3	Centre of Mass and laboratory frame		
	Unit 4 Rotational Dynamics	1	Angular momentum of particles and system of particles		
		2	Torque		

		3	Principle of conservation of angular momentum		
		4	Rotation about a fixed axis		
		5	Moment of Inertia		
		6	Calculation of moment of inertia for rectangular bodies		
		7	Calculation of moment of inertia for cylindrical bodies		
		8	Calculation of moment of inertia for cylindrical bodies (continued)		
		9	Calculation of moment of inertia for spherical bodies		
		10	Calculation of moment of inertia for spherical bodies (continued)		
		11	Kinetic energy of rotation		
		12	Motion involving both translation and rotation		
	Unit 5 Elasticity	1	Relation between Elastic constants		
		2	Twisting torque on a Cylinder or Wire		

2) Paper: Thermal Physics (PHYSICS - C VI) - B.Sc. 3rd Semester (H)

Unit	Class	Topic	Remarks
Unit 1 Zeroth and First Law of Thermodynamics	1	Extensive and intensive Thermodynamic Variables, Thermodynamic Equilibrium	
	2	Zeroth Law of Thermodynamics & Concept of Temperature, Concept of Work & Heat	
	3	State Functions, First Law of Thermodynamics and its differential form	
	4	Internal Energy	
	5	First Law & various processes	
	6	General Relation between CP and CV	
	7	Work Done during Isothermal and Adiabatic Processes	
	8	Compressibility and Expansion Coefficient	
Unit 2	1	Reversible and Irreversible process with examples	

	Second Law of Thermodynamics	2	Conversion of Work into Heat and Heat into Work		
		3	Heat Engines		
		4	Carnot's Cycle		
		5	Carnot engine & efficiency		
		6	Refrigerator & coefficient of performance		
		7	2 nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence		
		8	2 nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence (continued)		
		9	Carnot's Theorem		
		10	Applications of Second Law of Thermodynamics: Thermodynamic Scale of Temperature and its Equivalence to Perfect Gas Scale		
	Unit 3 Entropy	1	Concept of Entropy, Clausius Theorem, Clausius Inequality		
		2	Second Law of Thermodynamics in terms of Entropy, Entropy of a perfect gas		
		3	Principle of Increase of Entropy		

		4	Entropy Changes in Reversible and Irreversible processes with examples, Entropy of the Universe		
		5	Principle of Increase of Entropy		
		6	Temperature–Entropy diagrams for Carnot’s Cycle		
		7	Third Law of Thermodynamics. Unattainability of Absolute Zero		
	Unit 5 Maxwell’s Thermodynamic Relations	1	Derivations and applications of Maxwell’s Relations		
		2	Clausius Clapeyron equation		
		3	Values of C_p - C_v		
		4	TdS Equations		
		5	Joule-Kelvin coefficient for Ideal and Van der Waal Gases		
		6	Energy equations		
		7	Change of Temperature during Adiabatic Process		
	Unit 6 Kinetic Theory of Gases Distribution of Velocities	1	Maxwell-Boltzmann Law of Distribution of Velocities in an Ideal Gas and its Experimental Verification		
		2	Doppler Broadening of Spectral Lines and Stern’s Experiment		
		3	Mean Speed		
		4	RMS and Most Probable Speeds		
		5	Degrees of Freedom		

	6	Law of Equipartition of Energy	
	7	Specific heats of Gases	

3) Paper: Quantum Mechanics & Applications (PHYSICS – C XI) - B.Sc. 5th Semester (H)

Unit	Class	Topic	Remarks
Unit 1 Time dependent Schrodinger equation	1	Time dependent Schrodinger equation and dynamical evolution of a quantum state; Properties of Wave Function.	
	2	Interpretation of Wave Function Probability and probability current densities in three dimensions; Conditions for Physical Acceptability of Wave Functions.	
	3	Normalization. Linearity and Superposition Principles.	
	4	Eigenvalues and Eigenfunctions. Position, momentum and Energy operators	

		5	commutator of position and momentum operators; Expectation values of position and momentum.		
		6	Wave Function of a Free Particle.		
	Unit 2 Time independent Schrodinger equation	1	Hamiltonian, stationary states and energy eigenvalues		
		2	expansion of an arbitrary wavefunction as a linear combination of energy eigenfunctions		
		3	General solution of the time dependent Schrodinger equation in terms of linear combinations of stationary states		
		4	Application to spread of Gaussian wavepacket for a free particle in one dimension		
		5	Application to spread of Gaussian wavepacket for a free particle in one dimension (continued)		
		6	Wave packets		

		7	Fourier transforms and momentum space wavefunction		
		8	Fourier transforms and momentum space wavefunction (continued)		
		9	Position-momentum uncertainty principle		
		10	Position-momentum uncertainty principle (continued)		
	Unit 3 General discussion of bound states in an arbitrary potential	1	Continuity of wave function		
		2	Boundary condition		
		3	Emergence of discrete energy levels		
		4	Application to one-dimensional problem-square well potential		
		5	Quantum mechanics of simple harmonic oscillator		
		6	Quantum mechanics of simple harmonic oscillator (continued)		
		7	Energy levels and energy eigen functions using Frobenius method		

		8	Energy levels and energy eigen functions using Frobenius method (continued)		
		9	Hermite polynomials		
		10	Hermite polynomials (continued)		
		11	ground state		
		12	zero point energy & uncertainty principle		
	Unit 4 Quantum theory of hydrogen-like atoms	1	Time independent Schrodinger equation in spherical polar coordinates		
		2	Separation of variables for second order partial differential equation		
		3	Separation of variables for second order partial differential equation (continued)		
		4	Angular momentum operator & quantum numbers		
		5	Radial wave functions from Frobenius method		
		6	Radial wave functions from Frobenius method (continued)		

		7	Radial wave functions from Frobenius method (continued)		
		8	Shapes of the probability densities for ground & first excited states		
		9	Orbital angular momentum quantum numbers l and m		
		10	s, p, d... shells		
	Unit 5 Atoms in Electric & Magnetic Fields	1	Electron angular momentum		
		2	Space quantization		
		3	Electron Spin and Spin Angular Momentum		
		4	Larmor's Theorem		
		5	Spin Magnetic Moment		
		6	Stern-Gerlach Experiment		
		7	Zeeman Effect: Electron Magnetic Moment and Magnetic Energy		
		8	Gyromagnetic Ratio and Bohr Magneton		
	Unit 6	1	Normal Zeeman Effect		
		2	Anomalous Zeeman Effect		
		3	Paschen Back Effect		

	Atoms in External Magnetic Fields	4	Stark Effect	
	Unit 7 Many electron atoms	1	Pauli's Exclusion Principle	
		2	Symmetric & Antisymmetric Wave Functions, Periodic table	
		3	Fine structure	
		4	Spin orbit coupling	
		5	Spectral Notations for Atomic States	
		6	Total angular momentum	
		7	Vector Model	
		8	Spin-orbit coupling in atoms-L-S and J-J couplings	
		9	Hund's Rule	
		10	Term symbols, Spectra of Hydrogen and Alkali atoms (Na etc.)	

4) Paper: Thermal Physics and Statistical Mechanics (PHYSICS – GE - 3) - B.Sc. 3rd Semester (G)

Unit	Class	Topic	Remarks
Unit 1	1	Zeroth Law of thermodynamics and temperature	
	2	First law and internal energy	

Laws of Thermodynamics	3	First law and internal energy (continued)	
	4	Conversion of heat into work	
	5	Various Thermodynamical Processes	
	6	Various Thermodynamical Processes (continued)	
	7	Applications of First Law: General Relation between CP and CV	
	8	Applications of First Law: General Relation between CP and CV (continued)	
	9	Work Done during Isothermal and Adiabatic Processes	
	10	Work Done during Isothermal and Adiabatic Processes (continued)	
	11	Compressibility and Expansion Coefficient	
	12	Compressibility and Expansion Coefficient (continued)	
	13	Reversible and irreversible processes	
	14	Second law and Entropy	

		15	Second law and Entropy (continued)		
		16	Carnot's cycle & theorem		
		17	Carnot's cycle & theorem (continued)		
		18	Entropy changes in reversible processes		
		19	Entropy changes in irreversible processes		
		20	Entropy-temperature diagrams		
		21	Third law of thermodynamics		
		22	Unattainability of absolute zero		
	Unit 3 Kinetic Theory of Gases	1	Derivation of Maxwell's law of distribution of velocities and its experimental verification		
		2	Mean free path (Zeroth Order)		
		3	Transport Phenomena: Viscosity		
		4	Transport Phenomena: Viscosity (continued)		
		5	Conduction		
		6	Diffusion (for vertical case)		
		7	Diffusion (for vertical case) (continued)		

		8	Law of equipartition of energy	
		9	Applications to specific heat of gases	
		10	Monoatomic and diatomic gases.	
	Unit 5 Statistical Mechanics	1	Phase space	
		2	Macrostate and Microstate	
		3	Entropy and Thermodynamic probability	
		4	Maxwell Boltzmann law - distribution of velocity	
		5	Maxwell Boltzmann law - distribution of velocity (continued)	
		6	Quantum statistics	
		7	Fermi-Dirac distribution law	
		8	Fermi-Dirac distribution law (continued)	
		9	Electron gas	
		10	Bose-Einstein distribution law	
		11	Photon gas	
		12	Comparison of three statistics	

5) Paper: Quantum Mechanics (PH-C-II) - M.Sc. 1st Semester

Unit	Class	Topic	Remarks
Unit 1 Fundamental Concepts	1	Overview of wave mechanics	
	2	Schrödinger equation	
	3	Particle in a box	
	4	Simple harmonic oscillator	
	5	Simple harmonic oscillator (continued)	
	6	Hydrogen atom	
	7	Hydrogen atom (continued)	
	8	The Stern Gerlach Experiment	
	9	Kets and Bras	
	10	Operators	
	11	Base Kets and Matrix Representations	
	12	Base Kets and Matrix Representations (continued)	
	13	Measurements, Observables	
	14	Uncertainty Relations	
	15	Change of basis	
	16	Position, momentum and translation	
	17	Wave functions in position space	

		18	Wave functions in position space (continued)		
		19	Wave functions in momentum space		
		20	Wave functions in momentum space (continued)		
	Unit 2 Quantum Dynamics	1	Time evolution and the Schrödinger equation		
		2	Time evolution and the Schrödinger equation (continued)		
		3	The Schrödinger picture		
		4	The Schrödinger picture (continued)		
		5	The Heisenberg picture		
		6	The Heisenberg picture (continued)		
		7	Time evolution of the simple harmonic oscillator		
		8	Time evolution of the simple harmonic oscillator (continued)		
		9	Time evolution of the simple harmonic oscillator (continued)		
		10	Time independent perturbation theory: Non degenerate case		

		11	Time independent perturbation theory: Non degenerate case (continued)		
		12	Time independent perturbation theory: Degenerate case		
		13	Time independent perturbation theory: Degenerate case (continued)		
		14	Hydrogen like atoms: Fine structure		
		15	Hydrogen like atoms: Fine structure (continued)		
		16	Hydrogen like atoms: Zeeman Effect		
		17	Hydrogen like atoms: Zeeman Effect (continued)		
		18	Variational methods		
		19	Variational methods (continued)		
		20	Variational methods (continued)		
		21	Time dependent potentials: the Interaction picture		
		22	Time dependent potentials: the Interaction picture (continued)		
		23	Time dependent perturbation theory		

		24	Time dependent perturbation theory (continued)		
		25	Time dependent perturbation theory (continued)		
		26	Applications to Interactions with Classical Radiation field		
		27	Applications to Interactions with Classical Radiation field (continued)		
		28	WKB Approximation		
		29	WKB Approximation (continued)		
		30	WKB Approximation (continued)		
	Unit 3 Symmetry in Quantum Mechanics	1	Symmetries		
		2	Conservation laws and Degeneracy		
		3	Space and Time displacements		
		4	Rotation		
		5	Angular Momentum and Unitary groups		
		6	commutation relations		
		7	Density operators and Pure versus Mixed Ensembles		

		8	Eigenvalues and Eigenstates of Angular Momentum	
		9	Addition of Angular momentum	
		10	Clebsch Gordon Coefficients	

6) Paper: Electrodynamics (PH-C-VIII) - M.Sc. 3rd Semester

Unit	Class	Topic	Remarks
Unit 1	1	Propagation of electromagnetic waves in different media	
	2	Dispersion	
	3	Frequency dependence of σ , μ and ϵ	
	4	Frequency dependence of σ , μ and ϵ (continued)	Tutorial
	5	Dispersion in non-conductors	
	6	Dispersion in non-conductors (continued)	Tutorial
	7	Anomalous dispersion	Tutorial
	8	Free electrons in conductors and plasma	
	9	Wave Guides	
	10	TE waves in rectangular wave guide	

		11	TE waves in rectangular wave guide (continued)	Tutorial	
		12	Coaxial transmission lines		
		13	Boundary value problems in spherical coordinate		
	Unit 2	1	Electromagnetic radiation: Retarded potentials		
		2	Electromagnetic radiation: Retarded potentials (continued)	Tutorial	
		3	Electric dipole radiation		
		4	Electric dipole radiation (continued)	Tutorial	
		5	Radiation from an arbitrary distribution of charges and current		
		6	Radiation from an arbitrary distribution of charges and current (continued)	Tutorial	
		7	Lienard-Wiechert potentials		
		8	Lienard-Wiechert potentials (continued)	Tutorial	
		9	Fields due to uniformly moving charge		

		10	Fields due to uniformly moving charge (continued)	Tutorial	
		11	Fields due to accelerated charge		
		12	Fields due to accelerated charge (continued)	Tutorial	
		13	Linear and circular acceleration		
		14	Linear and circular acceleration (continued)	Tutorial	
		15	Angular distribution of radiated power		
		16	Angular distribution of radiated power (continued)	Tutorial	
		17	Bremhstrahlung and Synchrotron radiation		
		18	Bremhstrahlung and Synchrotron radiation (continued)	Tutorial	
		19	Radiation reaction		
		20	Radiation reaction (continued)		
		21	Abraham-Lorentz formula		
		22	Abraham-Lorentz formula (continued)	Tutorial	
	Unit 3	1	Structure of space-time		
		2	Structure of space-time (continued)		

		3	Structure of space-time (continued)	Tutorial	
		4	Four vectors and Lorentz transformation		
		5	Four vectors and Lorentz transformation (continued)	Tutorial	
		6	Four vectors and Lorentz transformation (continued)		
		7	Proper time and velocity		
		8	Proper time and velocity (continued)	Tutorial	
		9	Relativistic energy and momentum		
		10	Relativistic energy and momentum (continued)		
		11	Relativistic energy and momentum (continued)	Tutorial	
		12	Magnetism as relativistic phenomena		
		13	Magnetism as relativistic phenomena (continued)	Tutorial	
		14	Potential formulation of relativistic electrodynamics		
		15	Potential formulation of relativistic electrodynamics (continued)	Tutorial	

		16	Potential formulation of relativistic electrodynamics (continued)	Tutorial	
		17	Electromagnetic field tensor		
		18	Electromagnetic field tensor (continued)	Tutorial	
		19	Electromagnetic field tensor (continued)		
		20	Dual tensor		
		21	Dual tensor (continued)	Tutorial	
		22	Dual tensor (continued)		
		23	Covariant formulation of electrodynamics		
		24	Covariant formulation of electrodynamics (continued)	Tutorial	
		25	Covariant formulation of electrodynamics (continued)		

NAME OF THE TEACHER: DR. RASHMI PATOWARY
DETAILS OF COURSES ASSIGNED
SESSION : 2020-2021
(ODD SEMESTER)

UNDERGRADUATE COURSES					
Sl. No	CLASS	PAPER CODE	PAPER TITLE	UNITS	Marks
I	SEM-I (HONOURS) (CBCS)	PHYSICS -CI	Mathematical Physics-I (4 CREDITS)	IV to IX	39
II		PHYSICS-CI (LAB)	C- programming (2 CREDITS)	FULL	30
III	SEM-III (HONOURS) (CBCS)	PHYSICS -CV	Mathematical Physics-II (4 CREDITS)	FULL	60
IV	SEM-V (MAJOR) (NCBCS)	PHYM-501	Mathematical Physics-II	FULL	60
V	SEM-V (GENERAL) (NCBCS)	PHYG-501	Atomic and Nuclear Physics	Unit-III	30
POST-GRADUATE					
VI	SEM-I (CBCS)	PH-C-I	MATHEMATICAL PHYSICS (4 CREDITS)	FULL	60
VII	SEM-III (CBCS)	PH-C-IX	COMPUTATIONAL PHYSICS (4 CREDITS)	FULL	60
VIII	SEM-III (CBCS)	PH-AEC-IIC	METEOROLOGY (2 CREDITS)	FULL	30

COURSE PLAN
Course –Physics Honours
Semester- I
Paper Code: PH-C-I
Name of the Paper-Mathematical Physics-I
Units Assigned-IV-IX
Marks Assigned- 39

Class No	Unit	Topic	Number of lectures
1.	UNIT:IV Recapitulation of vectors	Properties of vectors under rotations	5 lectures
2.		Scalar product and its invariance under rotations.	
3.		Vector product, Scalar triple product	
4.		interpretation in terms of area and volume respectively.	
5.		Numericals on the above	
6.	UNIT:V	Directional derivatives and normal derivative	8 lectures
7.	Vector Differentiation	Gradient of a scalar field	

8.		Geometrical interpretation of Gradient of a scalar field	
9.		Del and Laplacian operators	
10.		Divergence of a vector field and its applications	
11.		Geometrical interpretation of divergence	
12.		Curl of a vector field and its applications	
13.		Geometrical interpretation of Curl of a vector	
14.	UNIT:VI Vector Integration	Ordinary Integrals of Vectors	14 lectures
15.		Multiple integrals	
16.		Jacobian and its applications	
17.		Notion of infinitesimal line, surface and volume elements	
18.		Line integral of a Vector field.	
19.		Applications of line integral	

20.		Surface integral of a Vector field.	
21		Applications of surface integral	
22		Volume integral of a Vector field	
23		Flux of a vector field.	
24		Gauss' divergence theorem and its proof	
25		Applications of Gauss' theorem	
26		Green's Theorem and its proof.	
27		Applications of Green's theorem	
28		Stokes Theorems and applications	
	UNIT: VII Orthogonal Curvilinear Coordinates	Introduction: Necessity of a General co ordinate system from which all co-ordinate systems can be derived	6 lectures
		Orthogonal Curvilinear Coordinates, scale factor	
		Expression for gradient of a scalar in Orthogonal Curvilinear Coordinates and conversion to spherical and cylindrical co ordinates	

		Expression for divergence of a vector in Orthogonal Curvilinear Coordinates and conversion to spherical and cylindrical co ordinates	
		Expression for curl of a vector in Orthogonal Curvilinear Coordinates and conversion to spherical and cylindrical co ordinates	
		Expression for Laplacian operator in Orthogonal Curvilinear Coordinates and conversion to spherical and cylindrical co ordinates	
	UNIT: VIII Introduction to probability:	Probability, random variables, mean,variance, Probability distribution	4
		Binomial ,Poisson , Gaussian probability distribution and applications.	
		Theorems in probability, hypothesis testing	
		Numericals on probability and probability distribution	
	UNIT: IX Dirac Delta function	Definition and properties of Dirac's delta function and applications	2 lectures
		Representation of Dirac's delta function as limit of a Gaussian function and rectangular function	
Total Lectures			39

Course –Physics Honours
Semester- III
Paper Code:PH-C-V
Name of the Paper-Mathematical Physics-III
Units Assigned- Full paper
Marks Assigned- 60

Class	UNIT	Unit	Remarks
1.	Fourier Series:	Periodic functions. Orthogonality of sine and cosine functions, Dirichlet Conditions	12 Marks
2.		Expansion of periodic functions in a series of sine and cosine functions and determination of Fourier coefficients.	
		Application	
3.		Complex representation of Fourier series and numerical on it.	
4.		Expansion of functions with arbitrary period and its applications.	
5.		Expansion of non-periodic functions over an interval and its applications	
6.		Applications continued	
7.		Even and odd functions and their Fourier expansions.	

8.		Summing of Infinite Series. Term-by-Term differentiation and integration of Fourier Series	
9.		Numericals on the above topic	
10.		Parseval Identity and summing up of Fourier Series	
11.	Frobenius Method and Special Functions	Recap : solutions of Differential equations, Singular Points of Second Order Linear Differential Equations	24 Marks
12		Introcuction to Series solution of differential equations	
13		Numericals on Series solution of differential equations	
14		Frobenius method and its applications to differential equations	
15		Solution of four different types of differential equation by Frobenius method.	
16		Legendre's equation and its series solution by Frobenius method.	
17		Legendre polynomial of 1 st and 2 nd kind. General form of Polynomial	
18		Finding the first few legendre Polynomial	
19		Expansion of function in a series of Legendre polynomial and examples on it.	

20		Deduction of Rodrigues Formula, Generating Function function of Legendre polynomial.	
21		Numericals based on Generating Function function	
22		Orthogonality condition for Legendre Polynomial	
23		Numericals based on Orthogonality condition	
24		Recurrence formula	
25		Hermite and Laguerre Differential equation	
26		Hermite and Laguerre Polynomial as solutions of the corresponding quations.	
27		Bessel's equation and Bessel's function as solution.	
28		Bessel Functions of the First Kind and Generating Function	
29		Zeros of Bessel Functions $J_0(x)$ and $J_1(x)$	
30		Recurrence relations for Bessel Functions.	
31		Miscellaneous numerical on the unit	

32		Summing Up and home Assignment	
33	Some Special Integrals:	Beta and Gamma Functions properties and applications	4 Marks
34		Applications of Beta and Gamma Functions	
35		Expression of Integrals in terms of Gamma Functions	
36		Error Function and its properties and some simple applications	
37	Theory of Errors:	Types of error: Systematic and Random Errors... Standard and Probable Error..	5 marks
38		Propagation of Errors and applications	
39		Normal Law of Errors	
40		Least-squares fit	
41		Error on the slope and intercept of a fitted line	
42	Partial Differential Equations :	Method of Solutions to partial differential equations, using separation of variables:	14 marks
43		Applications of method of Solutions to partial differential equations, using separation of variables.	

44		Solution of boundary value problems by method of separation of variables.	
45		Laplace's equation in rectangular, cylindrical and spherical coordinates.	
45		Solution of Laplace's Equation in rectangular co-ordinates and B.V. problems	
47		Solution of Laplace's Equation in spherical co-ordinates and B.V. problems.	
48		Solution of Laplace's Equation in cylindrical co-ordinates and B.V. problems.	
49		Derivation of wave equation in 1-dimension: equation of a stretched string.	
50		Solution of vibrational modes of a stretched string and B.V. problems	
51		Derivation of wave equation in 2-dimension: equation of a stretched membrane.	
52		Solution of Diffusion(heat)equation and boundary value problems	
53	Summing Up		NA
54			
	Total Lectures		54

COURSE PLAN
Course –Physics Honours
Semester: V
Paper Code: PHYM-501
Name of the Paper-Mathematical Physics-II
Units Assigned: FULL PAPER
Marks Assigned:60

Class		Topic/ Unit	marks
1.	Unit: I Differential equations and special functions	Objective of learning DE (Differential Equation): Introduction to DE, Classification of Differential Equations	29
2.		Homogenous differential equations and its solutions	
3.		Solution of non-homogeneous equations	
4.		Solution of ordinary differential equations of second order	
5.		Solution of linear differential equations with constant coefficients	

6.		Solution of linear differential equations with variable coefficients	
7.		Series solution of Differential equations	
8.		Frobenius' method of solution of differential equations	
9.		Solution different types of Differential equations by Frobenius method.	
10.		Legendres equation and Legendre Polynomial as its solution	
11.		Properties and applications of Legendre Polynomial	
12.		Beta and gamma functions, their properties inter relations	
13.		Applications of Beta and gamma functions	
14.		and error functions, properties and simple applications	
15.		Doubt Clearing and summing up of the unit	
16.	Unit:II Complex variables 15 lectures	Objective of learning complex variable. Recap: Complex numbers and their graphical representation	15 marks
17.		Introduction to complex variables and functions of complex variables.	

		Idea of Limit and continuity, analytic functions	
18.		Cauchy-Riemann conditions and applications	
19.		Different types of Singularities, Contour integration	
		Applications of Contour integration	
20.		Cauchy's theorem, Cauchy's integral formula	
		Applications of Cauchy's theorem and integral formula	
		Taylor's and Laurent's expansion	
		Applications of Taylor's and Laurent's expansion	
		Residue theorem and its application in evaluation of integrals	
		Miscellaneous problems of complex variable	
		Revision of the whole unit	
	Unit III: Fourier series Lectures 10	Introduction and objective of Fourier series. Expansion of a periodic function in terms of sine and cosine functions.	Marks 16

		Dirichlet's conditions , orthogonality of sine and cosine functions.	
		Determination of Fourier coefficients . Complex representation of Fourier series .	
		Numericals on expanding functions in fourier Series	
		Fourier series and summing of Infinite Series	
		Fourier series for odd and even functions: sine and cosine series	
		Expansion of fourier series of arbitrary interval	
		Applications of Fourier series to analysis of saw tooth and square waves	
		Miscellaneous examples on Fourier Series.	
		Summing up of Fourier series	

COURSE PLAN Course –Physics General Semester: V Paper Code: PHYG-501 Name of the Paper-ATOMIC AND NUCLEAR PHYSICS

Units Assigned: FULL PAPER
Marks Assigned:30

Class		Topic/ Unit	Marks
1.	Unit III:	Introduction and recap of the atomic nucleus and Nuclear physics .Basic terminology used in nuclear physics	30
2.		Qualitative introduction to the nature of nuclear forces,	
3.		Bohr-Wheeler theory	
4.		Nuclear models,Liquid drop model of the nucleus	
5.		Semi-empirical mass formula	
6.		Energy released in fission	
7.		Nuclear reactions and cross-sections	
8.		Radio activity, laws of radioactivity, induced radioactivity	
9.		Nuclear fission	
10.		Applications of nuclear fission	

11.		Nuclear fusion	
12.		Nuclear accelerators : basic principles Accelerators	
13.		Van-de-Graff generator: theory and working	
14.		Linear accelerator : theory , working, advantages ,disadvantages	
15.		Cyclotron : theory , working, advantages ,disadvantages	
16.		Numericals on the above	
17.		Discussion on probable questions on the above.	

COURSE PLAN Course –M.SC Physics Semester: I Paper Code: PHYG-501 Name of the Paper-MATHEMATICAL PHYSICS Units Assigned: FULL PAPER

Marks Assigned:60				
Class No.		Topic/ Unit		Marks
1.	Unit I: Linear Vector Spaces (L 16, T 8)	LECTURE-1	Review of vector analysis , idea of base vector and basis of a vector space	
2.		LECTURE-2	Definition of vector spaces; finite dimensional vector spaces	
3.		LECTURE-3	Linear independence, basis and dimensionality, infinite dimensional vector space, Hilbert space	
4			TUTORIAL-1	
5		LECTURE-4	Inner product of vectors and norm of vector,	
6		LECTURE-5	Schemidt's orthogonalization method	
7			TUTORIAL-2	
8		LECTURE-6	Schwarz's and Bessel's inequalities	
9			TUTORIAL-3	
10		LECTURE-7	Linear operators: some important linear operators	

11			TUTORIAL-4	
12		LECTURE-8	Matrices: Types: orthogonal, Hermitian, unitary and normal matrices	
13		LECTURE-9	Inverse of a matrix	
14			TUTORIAL-5	
15		LECTURE-10	Matrix representation of linear operators	
16		LECTURE-11	Linear transformation:Types of	
17		LECTURE-12	Similarity transformation, orthogonal and unitary transformations	
18			TUTORIAL-6	
19		LECTURE-13	eigenvectors and eigenvalues	
20			TUTORIAL-7	
21		LECTURE-14	Diagonalization of matrices (or operators)	
22			TUTORIAL-8	

23		LECTURE-15	Fock space	
24		LECTURE-16	Summing up of linear vector space	
25	Unit II: Partial Differential equations (L 9, T 6)	LECTURE-1	Objective behind learning Partial differential equations. recap of differential equations and boundary conditions	Marks 15
26		LECTURE-2	Solution of differential equations by method of separation of variables	
27			TUTORIAL-1	
28		LECTURE-3	Idea of Cylindrical and spherical polar co-ordinates and their relation with Cartesian co-ordinates.	
29		LECTURE-4	Solution of Laplace's equation in Cartesian coordinates and boundary value problems	
30		LECTURE-5	Solution of Laplace's equation in Spherical coordinates and boundary value problems	
31			TUTORIAL-2	
32		LECTURE-6	Solution of Laplace's equation in Cylindrical coordinates and boundary value problems	
33			TUTORIAL-3	
34		LECTURE-7	Solution of Poisson's equation	

35			TUTORIAL-4	
36		LECTURE-8	Solution of Diffusion equation	
37			TUTORIAL-5	
38		LECTURE-9	Green function method of solving differential equations	
39			TUTORIAL-6	
40	Unit III: Group Theory (L 7, T 3)	LECTURE-1	Introduction Groups: definition, examples of different types of groups. Objective behind studying group	Marks 10
41		LECTURE-2	Subgroups, classes and characters and related theorems	
42			TUTORIAL-1	
43		LECTURE-3	cosets, factor group, normal subgroup and related theorems	
44		LECTURE-4	homomorphism and isomorphism, representation of a group	
45			TUTORIAL-2	
46		LECTURE-5	point symmetry group, Lie groups, generators of continuous group	

47			TUTORIAL-3	
47		LECTURE-6	rotation groups, unitary groups, special unitary groups.	
49		LECTURE-7	Idea of direct and semi direct product of groups Summing up	
	Unit IV: Tensor Analysis (L 7, T 5,)	LECTURE-1	Basics of tensor algebra	Marks 12
			TUTORIAL-1	
		LECTURE-2	line element and metric tensor	
			TUTORIAL-2	
		LECTURE-3	Associated tensors, Christoffel's symbols	
			TUTORIAL-3	
		LECTURE-4	geodesics,	
		LECTURE-5	covariant derivatives	
			TUTORIAL-4	

		LECTURE-6	Riemannian Christoffel's tensor or curvature tensor, Bianchi identities.	
			TUTORIAL-5	
		LECTURE-7	Summing Up	

COURSE PLAN Course –M.Sc. Physics Semester: III Paper Code: PH-C-IX PAPER CODE-COMPUTATIONAL PHYSICS Units Assigned: FULL PAPER Marks Assigned:60			
Class	Unit	Topic/ Unit	marks

1.	Unit I: (L 3, Practical 2,)	LECTURE-1	Objective of the course, Introduction to computer and computational methods	Marks 5
2.		LECTURE-2	Windows and Unix user commands, functions ,operation with files	
3.		LECTURE-3	Programming examples of numerical methods	
4.			PRACTICAL-1	
5.			PRACTICAL-2	
6.	Unit II: (L 11, Practical 5,)	LECTURE-1	Introduction to FORTRAN programming	Marks 20
7.		LECTURE-2	Flow chart	
			PRACTICAL-1	
8.		LECTURE-3	Integer and floating point arithmetic,	
9.		LECTURE-4	Expressions,	
10.		LECTURE-5	built-in functions,	
11.		LECTURE-6	Executable and non-executable statements, assignment	

			PRACTICAL-2	
12.		LECTURE-7	Control statements	
		LECTURE-8	input and output elements	
		LECTURE-9	subroutines and functions,	
			PRACTICAL-3	
		LECTURE-10	operation with files,	
		LECTURE-11	Programming examples of numerical methods.	
			PRACTICAL-4	
.		.	PRACTICAL-5	
	Unit III: (L 5, Practical 3)	LECTURE-1	Introduction, , significant digits, ,	Marks 10
15.		LECTURE-2	Absolute and relative error,	
16.			PRACTICAL-1	

17.		LECTURE-3	Approximations and errors in computing	
		LECTURE-4	Data errors, round off error, truncation error, modeling error	
18.			PRACTICAL-2	
19.		LECTURE-5	General formula of errors, error estimation	
			PRACTICAL-3	
,	Unit IV : (L 18, Practical 7)	LECTURE-1	Recap :Elementary probability theory and terminology, random variables	Marks 25
		LECTURE-1	Probability distribution binomial and Poisson distributions	
		LECTURE-3	Normal distribution ,central limit theorem	
		LECTURE-4	chi-square test	
			PRACTICAL-1	
		LECTURE-5	Determination of root of functions, roots of nonlinear equations Bisection method,	
		LECTURE-6	Method of false position, Newton-Raphson method	

			PRACTICAL-2	
		LECTURE-7	Numerical integration by trapezoidal and Simpson's rule	
		LECTURE-8	Numerical integration by Simpson's rule	
			PRACTICAL-3	
		LECTURE-9	Numerical differentiation: Finite difference methods	
		LECTURE-10	central difference formula, extrapolation	
			PRACTICAL-4	
		LECTURE-11	Solution of first order ordinary differential equation: Runge-Kutta method.	
			PRACTICAL-5	
		LECTURE-12	Lagrange interpolation polynomial	
			PRACTICAL-6	
		LECTURE-13	Newton-Gregory method	

		LECTURE-14	Linear and non-linear curve fitting	
			PRACTICAL-7	
		LECTURE-15	SUM UP	

COURSE PLAN Course – M.Sc. Physics Semester: III Paper Code: PH-AEC-IIA Name of the Paper-METEOROLOGY

Units Assigned: FULL PAPER

Marks Assigned:30

Class	UNIT		Topic	marks
	Unit I: Meteorological fundamentals (L 10)	LECTURE-1	Importance and objective and scope of the study of Meteorology, Basics of weather and climate.	Marks 10
		LECTURE-2	composition of the Atmosphere	
		LECTURE-3	structure of the atmosphere	
		LECTURE-4	Meteorological convention	
		LECTURE-5	definition and measurements of Meteorological parameters,	
		LECTURE-6	Different aspects of solar radiation,	
		LECTURE-7	Heat transfer in the atmosphere	
		LECTURE-8	Temperature controls of the atmosphere	
		LECTURE-9	Atmospheric stability	
		LECTURE-10	Hydrostatic equilibrium	

	Unit II: Dynamics of the Atmosphere (L 8)	LECTURE-1	Scales of atmospheric motion, , , , ,;	Marks 10
		LECTURE-2	factors affecting wind (pressure gradient force, Coriolis force, Friction)	
		LECTURE-3	types of wind	
		LECTURE-4	global circulation	
		LECTURE-5	Monsoons, westerlies, El Nino-La Nina	
		LECTURE-6	Thunderstorms: types and formation mechanisms	
		LECTURE-7	weather patterns:.	
		LECTURE-8	cyclone, typhoon, tornados	
	Unit III: Clouds and Precipitation (L 5)	LECTURE-1	Formation of Clouds, ,	Marks 5
		LECTURE-2	Classification of Clouds according to height and shape	
		LECTURE-3	forms and mechanism of Precipitation	
		LECTURE-4	Fog, dew, mist, haze	

		LECTURE-5	role of clouds in climate system.	
	Unit IV: Weather analysis and forecasting (L 5)		Gathering meteorological data and weather maps, ,	Marks 5
			Modern numerical weather prediction methods	
			Ranges of forecasts	
			Satellites in weather prediction	
			SUM-UP	

NAME OF THE TEACHER: DR. RASHMI PATOWARY
DETAILS OF COURSES ASSIGNED FOR THE SESSION:
2020-2021 (Even semester)

UNDERGRADUATE

Sl. No	CLASS	PAPER CODE	PAPER TITLE	UNITS	Marks
I	SEM-II (HONOURS) (CBCS)	PHYSICS -C-IV	WAVES AND OPTICS (4 CREDITS)	IV to IX	33
II	SEM-II (GENERIC) (CBCS)	PHYSICS-GE-IV	WAVES AND OPTICS (4 CREDITS)	IV,V,VI,VII	37
III	SEM-IV (HONOURS) (CBCS)	PHYSICS -C-V	MATHEMATICAL PHYSICS-III (4 CREDITS)	FULL	60
IV	SEM-VI (MAJOR) (NCBCS)	PHYM-603	NUCLEAR PHYSICS	FULL	60

POST-GRADUATE

VI	SEM-II (CBCS)	PH-DSE-IIA	PLASMA PHYSICS (4 CREDITS)	FULL	60
VII	SEM-IV	PH-C-IX	NUCLEAR PHYSICS	FULL	60

	(CBCS)		(4 CREDITS)		

(Even semester:2020-2021)

Course Plan

Course –Physics Honours Semester- II Paper Code: PH-C-IV Name of the Paper-WAVES AND OPTICS Units Assigned-VII-XI Marks Assigned:33			
Class	UNIT	Topic/ Unit	Marks
1.	UNIT:VII Interference	Division of amplitude and wavefront:	9 Marks
2.		Young's double slit experiment	
3.		Lloyd's Mirror and Fresnel's Biprism.	
4.		Phase change on reflection: Stokes' treatment	

5.		Interference in Thin Films: parallel and wedge-shaped films.	
6.		Fringes of equal inclination (Haidinger Fringes)	
7.		Fringes of equal thickness (Fizeau Fringes)	
8.		Newton's Rings,	
9.		Measurement of wavelength and refractive with the help of Newton's ring	
10.	UNIT:VIII Interferometer	Introduction to interferometry, Interferometers, Types of interferometer	4 marks
11.		Michelson Interferometer Idea of form of fringes	
12.		)Determination of Wavelength, Wavelength Difference	
13.		Refractive Index, and Visibility of Fringes.	
14.		Fabry-Perot interferometer	
15.	UNIT: IX Diffraction	Kirchhoff's Integral Theorem	2 Marks)
16.		Fresnel-Kirchhoff's Integral formula.	

17.	UNIT: IX Fraunhofer diffraction	Diffraction, Fresnel and Fraunhofer,	8 Marks
		Composition of SHM by vector addition of amplitudes, Fraunhofer diffraction at a Single slit	
		Fraunhofer diffraction at a Circular aperture	
18.		Fraunhofer diffraction at Double slit.	
		Fraunhofer diffraction at Multiple slits.	
19.		Resolving Power of a telescope	
20.		Diffraction grating	
		Resolving power of grating	
	UNIT: X Fresnel Diffraction	Fresnel's Assumptions.	7 Marks
		Fresnel's Half-Period Zones for Plane Wave	
		Explanation of Rectilinear Propagation of Light.	
		Theory of a Zone Plate: Multiple Foci of a Zone Plate.	

		Fresnel's Integral,	
		Fresnel diffraction pattern at a straight edge	
		Fresnel diffraction pattern at a slit and at a wire	
	UNIT: XI Holography 3 Lectures	Principle of Holography. Recording and Reconstruction Method.. (,	3 Marks)
		Theory of Holography as Interference between two Plane Waves .Point source holograms.	
		Summing up	

Course –Physics GENERIC
Semester- II
Paper Code: GE-4
Name of the Paper-WAVES AND OPTICS
Units Assigned-V,VI,VII

Marks Assigned			
Class	UNIT	Topic/ Unit	Marks
1	Unit IV 15 lectures Interference, Michelson's Interferometer 15 Lectures	Interference: Division of amplitude and division of wavefront.	15 marks
2		Young's Double Slit experiment.	
3		Lloyd's Mirror and Fresnel's Biprism, principle and working	
4		Phase change on reflection: Stokes' treatment.	
5		Interference in Thin Films: parallel and wedge-shaped films.	
6		Fringes of equal thickness (Fizeau Fringes).	
7		Fringes of equal inclination (Haidinger Fringes);	
8		Newton's Rings:	
9		measurement of wavelength and refractive index by newton's ring method	
10		Interferometers, Michelson's interometer	
11		Idea of form of fringes, Visibility of fringes	

		Determination of wavelength, Wavelength difference	
12		Determination of Refractive index	
13.	Unit VI Diffraction: 14 Lectures	Recap: Diffraction : Fraunhofer and fresnel's and conditions under which these hold.	14 Marks
14		Fraunhofer diffraction at Single slit.	
15		Fraunhofer diffraction at Double Slit.	
16		Fraunhofer diffraction at Multiple slits.	
17		Diffraction grating	
18		Fresnel Diffraction	
19		Half-period zones	
20		Zone plate	
21		Fresnel Diffraction pattern at a straight edge	

22		Fresnel Diffraction pattern at a slit using half-period zone analysis	
23		Fresnel Diffraction pattern at a wire using half-period zone analysis	
24		Numericals on the above	
25		Sum-Up of diffraction	
26	Unit VII Polarization 5 Lectures	Transverse nature of light waves, polarization of light,.	5 Marks
		Plane polarized light : production of Plane polarized light	
		Brewsters law, Malus law	
		Analysis of Plane polarized light,	
		Sum-up of polarization of light	
		Sum-up of the whole syllabus.	

Course –Physics Honours
Semester- IV
Course Code: PHYSICS-C-VIII
Course Title: MATHEMATICAL PHYSICS-III
Nature of the Course: Core
Total Credits assigned: 06
Units Assigned- Full paper
Marks Assigned- 60

Class	UNIT		Topic/ Unit	marks
1.	UNIT:I Complex Variables 23 classes		Brief Revision of Complex Numbers and their Graphical Representation,...	30 Marks
2.			Euler's formula, De Moivre's theorem, Roots of Complex Numbers	
3.			Numericals on the above topics	

4.		Functions of Complex Variables	
5.		Analyticity of functions of complex variables, Examples of analytic functions	
6.		Cauchy-Riemann Conditions, harmonic functions	
7.		Proof of Cauchy-Riemann Conditions in Cartesian and polar co-ordinates	
8.		Miscellaneous numerical on Cauchy-Riemann Conditions	
9		Tutorial	
10		Singular functions: poles and branch points, order of singularity	
11		Branch cuts.	
12		Tutorial	
13		Integration of a function of a complex variable	
14		Cauchy's Inequality	
15		Cauchy's Integral formula	

16			Tutorial	
17			Simply and multiply connected region	
18			Laurent and Taylor's expansion	
19			Tutorial	
20			Residues and Residue Theorem	
21			Application in solving Definite Integrals	
22			Tutorial	
23			Sum-UP	
24	UNIT:II Fourier Transforms		Necessity and applications of Fourier Transforms Fourier Integral theorem.,	15 Marks
25			Fourier Transform. Examples.	
26			Tutorial	
27			Fourier transform of trigonometric, Gaussian, finite wave train & other functions.	

28			Tutorial	
29			Representation of Dirac delta function as a Fourier Integral	
30			Fourier transform of derivatives	
31			Inverse Fourier transform,	
32			Tutorial	
33			Properties of Fourier transforms (translation, change of scale, complex conjugation, etc.	
34			Three dimensional Fourier transforms and their examples.	
35			Convolution theorem.	
36			Application of Fourier Transforms to differential equations: One dimensional Wave equation.	
37			Application of Fourier Transforms to Diffusion/Heat Flow Equations	
38			SUM-UP	
39	UNIT: III		Laplace Transform (LT) of Elementary functions.	15 Marks

40	Laplace Transforms		Properties of Laplace Transform	
41			Change of Scale Theorem, Shifting Theorem.	
42			Tutorial	
43			LTs of 1 st and 2 nd order Derivatives and Integrals of Functions,	
44			Derivatives and Integrals of LTs	
45			LT of Unit Step function, Dirac Delta function,	
46			LT of Periodic Functions. Convolution Theorem.	
47			Tutorial	
48			Application of Laplace Transforms to 2 nd order Differential Equations:	
49			Damped Harmonic Oscillator, Simple Electrical Circuits	
50			Coupled differential equations of 1 st order.	
51			Solution of heat flow along infinite bar using Laplace transform	

52			Tutorial	
53			Summing up	

Course –Physics MAJOR Semester-VI Course Code: PHYM-603 Course Title: NUCLEAR PHYSICS Nature of the Course: Core Units Assigned- Full paper Marks Assigned- 60			
Class	UNIT	Topic/ Unit	marks
1.	UNIT:I Properties of Atomic Nuclei	Introduction to the atomic nucleus and origin of nuclear physics	15 Marks
2.		Basic terminology of nuclear physics,	
3.		Determination of Nuclear radius	
4.		hypotheses of nuclear composition :proton-electron hypothesis and its failure	

5.		Proton-neutron hypothesis and its ability to explain discrepancies of the proton-electron hypothesis	
6.		Mass of nucleus and nuclear atoms	
7.		Quantum numbers of individual nucleus	
8.		Quantum properties nuclear states,	
9.		Nuclear angular momentum	
10		Nuclear magnetic dipole moment	
11		Binding energy of nucleus	
12		Mass defect, packing fraction, disintegration energy,	
13		Numericals based on binding energy	
14		Semi-empirical mass formula and significance of each term	
15		Sum up of properties of nucleus	
16	UNIT:II Nuclear models	Qualitative introduction to the nature of nuclear forces	10 Marks

17		Nuclear models	
18		Qualitative discussion of the liquid drop model of the nucleus	
19		liquid drop model of the nucleus in relation to the semi-empirical mass formula	
20		Liquid drop model and fission, idea of Bohr wheeler theory	
21		Demerits of the liquid drop model, evidences of the existence of the shell model	
22		Qualitative discussion on the Shell model of the nucleus	
23		SUM-UP	
24	UNIT: III Nuclear reactions and cosmic rays	Nuclear reactions, terminology, types of nuclear reactions	22 Marks
25		Q-value of nuclear reactions,Nuclear reaction kinematics	
26		Numerical on finding the Q-value of nuclear reactions	
27		Spontaneous Radio-activity, laws, half life, disintegration constants	
28		Numericals on radio active decay	

29		Qualitative discussion on induced radioactivity	
30		Proton induced reaction,	
31		Alpha induced reaction	
32		Nuclear fission , released energy, neutron reproduction factor	
33		Sustained nuclear chain reaction, nuclear reactor	
34		Numericals	
35		Fusion and thermonuclear reactions,	
36		Proton-proton and carbon nitrogen cycle	
37		Basics of particle accelerators.-, ,	
38		Van de Graph generator	
39		Linear accelerators and demerits	
40		cyclotron.	

41		Numerical on particle accelerators	
42	UNIT: IV Elementary particles	Cosmic ray and its Discovery	13 marks
43		Properties of cosmic rays	
44		Origin of cosmic rays	
45		Hard and soft components of cosmic rays	
46		Geomagnetic effects of cosmic ray	
47		Geomagnetic effects of cosmic ray continued	
48		classification of elementary particles (old)	
49		Fundamental interaction between elementary particles	
50		Conservation laws satisfied by Elementary interactions.	
51		Examples	
52		introduction to leptons, quarks and gauge bosons	

53		Classification of elementary particles (standard model)	
54		Quark structure of nucleons and baryons	
55		Summing up	

COURSE PLAN Course – M.Sc. Physics Semester: II Paper Code: PH-DSE-IIA Name of the Paper-PLASMA PHYSICS Units Assigned: FULL PAPER Marks Assigned:60				
Class	UNIT		Topic/ Unit	marks
1	Unit I: (L 8, T 4,)		Introduction to plasma , Definition of plasma, quasi-neutrality	Marks 12
2			Concept of temperature,	
3			Debye shielding	

4			plasma parameters,	
5			criterion for plasma	
6			Classification of Plasma	
7			Applications of Plasma Physics	
8				
	Unit II: (L 8, T 6)		Single particle motion: motion of a charged particle in uniform magnetic field diffusion across magnetic fields,	Marks 14
			Motion of a charged particle in uniform electric field	
			TUTORIAL	
			Motion of a charged particle in uniform electric and magnetic field	
			Motion of a charged particle in non-uniform electric field	
			TUTORIAL	

			Motion of a charged particle in non-uniform magnetic field,	
			TUTORIAL	
			Magnetic mirror and related concepts	
			Motion of a charged particle in time varying electric field magnetic field	
			Motion of a charged particle in time varying electric field magnetic field	
			Adiabatic invariants,	
			TUTORIAL	
	Unit III: (L 10, T 5)		Plasma as fluids: Introduction,	Marks 17
			relation of plasma physics to ordinary electromagnetics,	
			TUTORIAL	
			Fluid equation of motion	

			TUTORIAL	
			Convective derivative	
			Fluid drifts perpendicular to B	
			Fluid drifts perpendicular to B contd	
			TUTORIAL	
			Fluid drifts parallel to B	
			Fluid drifts parallel to B continued	
			TUTORIAL	
			Plasma approximation	
			TUTORIAL	
			Plasma confinement	
	Unit IV: (L 12, T 4,)		Wave phenomena in plasma	Marks 17

			phase and group velocities	
			plasma oscillation, electron plasma waves	
			TUTORIAL	
			ion-acoustic waves	
			Propagation parallel to the magnetic	
			Propagation parallel to the magnetic continued	
			TUTORIAL	
			Propagation perpendicular to the magnetic	
			Propagation perpendicular to the magnetic continued	
			TUTORIAL	
			propagation through ionosphere and magnetosphere	

			TUTORIAL	
			Space and Astrophysical Plasma, Van Allen Belts	
			Space and Astrophysical Plasma continued	
			Sum-Up	

COURSE PLAN Course – M.Sc. Physics Semester: IV Paper Code: PH-C-X Name of the Paper-NUCLEAR PHYSICS Units Assigned: FULL PAPER Marks Assigned:60				
Class	UNIT		Topic/ Unit	marks

	Unit I: (L 10,)		Review of nuclear properties	Marks 10
			Review of quantum properties of the nucleus	
			Paulis Spin formalism	
			Isospin	
			Nuclear Forces and its properties.	
			Exchange forces: Four types	
			Isotopic spin formalism	
			Generalized Pauli's exclusion principle	
			meson theory of nuclear forces	
			Review	
	Unit II: (L 18,)		Two body problem as a study of nuclear force, bound state of two nucleons	Marks 18
			Deuteron and its experimentally observed properties.	

			Solution of schrodinger's equation for Deuteron, minimum depth of potential well	
			Deuteron Wave function, probability of the deuteron to be in a bound state, radius of the deuteron	
			Ground and excited states of deuteron	
			General form of nucleon-nucleon forces	
			Nucleon-nucleon scattering at low energies	
			Ground states and excited states	
			Central and tensor forces	
			Nuclear models: Review of liquid drop model and its applications,	
			Shell model and explanation of magic numbers.	
			L-S coupling	
			Magnetic moment and Schmidt lines,	
			limitations of the shell model	

	Unit III: (L 15,		Nuclear reactions: Reaction channels, , , , , and general features of β -ray spectrum, ,.	Marks 15
			scattering cross-section	
			nuclear reaction mechanisms	
			compound nucleus	
			Partial wave analysis of nuclear reaction	
			-do-	
			Breit-Wigner single level formula, , resonance	
			-do-	
			B-W formula incorporating spin,	
			Nuclear fission	
			β -decay, β -spectrum, inability to explain spectrum.	
			neutrino hypothesis and explanation of β -ray spectrum	

			Fermi's theory of β -decay	
			-do-	
			Curie plot, selection rules	
	Unit IV: (L 12,		Elementary Particle Physics: The four Fundamental forces, , , and.	Marks 12
			Elementary particles and their classification	
			Characteristics of the elementary particles	
			Quantum numbers, behaviour under charge conjugation, time reversal and parity operation	
			Elementary particles allowed or forbidden on basis of conservation laws examples	
			Isotopic multiplet and Gellmann-Nishijima scheme	
			Quark model, Standard model	
			SU (3) classification	
	Unit V: (L 5,		Detection of radiations	Marks 5

			Gas filled counters	
			Continued	
			scintillation detectors,	
			semiconductor detectors	
			Numericals on	

NAME OF THE TEACHER: DR. RASHMI PATOWARY

**DETAILS OF COURSES ASSIGNED FOR THE SESSION:
2021-2022 (Odd semester)**

UNDERGRADUATE

Sl. No	CLASS	PAPER CODE	PAPER TITLE	UNITS	Marks
I II	SEM-I (HONOURS) (CBCS)	PHYSICS -C-I	MATHEMATICAL PHYSICS-I (4 CREDITS)	IV,V,VI,VII, IX	35
		PHYSICS-CI (LAB)	C- PROGRAMMING (2 CREDITS)	FULL	30
III	SEM-III (HONOURS) (CBCS)	PHYSICS -C-V	MATHEMATICAL PHYSICS-II (4 CREDITS)	FULL	60
IV	SEM-V (HONOURS) (NCBCS)	DSE-2	ASTRONOMY AND ASTROPHYSICS (5 CREDITS)	FULL	80

POST-GRADUATE

VI	SEM-I (CBCS)	PH-C-I	MATHEMATICAL PHYSICS (4 CREDITS)	I,IV	24+12=36
VII	SEM-III (CBCS)	PH-C-IX	COMPUTATIONAL PHYSICS (4 CREDITS)	II,IV	45
VIII	SEM-III (CBCS)	PH-AEC-IIC	METEOROLOGY (2 CREDITS)	FULL	30

COURSE PLAN**Course –Physics Honours****Semester- I****Paper Code: PH-C-I****Name of the Paper-Mathematical Physics-I****Units Assigned-IV-IX****Marks Assigned- 39**

Class No	Unit	Topic	Number of lectures
1.	UNIT:IV Recapitulation of vectors	Properties of vectors under rotations	5 lectures
2.		Scalar product and its invariance under rotations.	
3.		Vector product, Scalar triple product	
4.		interpretation in terms of area and volume respectively.	
5.		Numericals on the above	
6.	UNIT:V	Directional derivatives and normal derivative	8 lectures

7.	Vector Differentiation	Gradient of a scalar field	
8.		Geometrical interpretation of Gradient of a scalar field	
9.		Del and Laplacian operators	
10.		Divergence of a vector field and its applications	
11.		Geometrical interpretation of divergence	
12.		Curl of a vector field and its applications	
13.		Geometrical interpretation of Curl of a vector	
14.	UNIT:VI	Ordinary Integrals of Vectors	14 lectures
15.	Vector Integration	Multiple integrals	
16.		Jacobian and its applications	
17.		Notion of infinitesimal line, surface and volume elements	
18.		Line integral of a Vector field.	

19.		Applications of line integral	
20.		Surface integral of a Vector field.	
21		Applications of surface integral	
22		Volume integral of a Vector field	
23		Flux of a vector field.	
24		Gauss' divergence theorem and its proof	
25		Applications of Gauss' theorem	
26		Green's Theorem and its proof.	
27		Applications of Green's theorem	
28		Stokes Theorems and applications	
	UNIT: VII Orthogonal Curvilinear Coordinates	Introduction: Necessity of a General co ordinate system from which all co-ordinate systems can be derived	6 lectures
		Orthogonal Curvilinear Coordinates, scale factor	

		Expression for gradient of a scalar in Orthogonal Curvilinear Coordinates and conversion to spherical and cylindrical co ordinates	
		Expression for divergence of a vector in Orthogonal Curvilinear Coordinates and conversion to spherical and cylindrical co ordinates	
		Expression for curl of a vector in Orthogonal Curvilinear Coordinates and conversion to spherical and cylindrical co ordinates	
		Expression for Laplacian operator in Orthogonal Curvilinear Coordinates and conversion to spherical and cylindrical co ordinates	
	UNIT: IX Dirac Delta function	Definition and properties of Dirac's delta function and applications	2 lectures
		Representation of Dirac's delta function as limit of a Gaussian function and rectangular function	
Total Lectures			39

Course Plan Course –Physics Honours Semester- III Paper Code:PH-C-V Name of the Paper-Mathematical Physics-III Units Assigned- Full paper Marks Assigned- 60			
Class	UNIT	Unit	Remarks

1.	Fourier Series:	Periodic functions. Orthogonality of sine and cosine functions, Dirichlet Conditions	12 Marks
2.		Expansion of periodic functions in a series of sine and cosine functions and determination of Fourier coefficients.	
		Application	
3.		Complex representation of Fourier series and numerical on it.	
4.		Expansion of functions with arbitrary period and its applications.	
5.		Expansion of non-periodic functions over an interval and its applications	
6.		Applications continued	
7.		Even and odd functions and their Fourier expansions.	
8.		Summing of Infinite Series. Term-by-Term differentiation and integration of Fourier Series	
9.		Numericals on the above topic	
10.		Parseval Identity and summing up of Fourier Series	
11.	Frobenius Method and	Recap : solutions of Differential equations, Singular Points of Second Order Linear Differential Equations	24 Marks

12	Special Functions	Introcuction to Series solution of differential equations	
13		Numericals on Series solution of differential equations	
14		Frobenius method and its applications to differential equations	
15		Solution of four different types of differential equation by Frobenius method.	
16		Legendre's equation and its series solution by Frobenius method.	
17		Legendre polynomial of 1 st and 2 nd kind. General form of Polynomial	
18		Finding the first few legendre Polynomial	
19		Expansion of function in a series of Legendre polynomial and examples on it.	
20		Deduction of Rodrigues Formula, Generating Function function of Legendre polynomial.	
21		Numericals based on Generating Function function	
22		Orthogonality condition for Legendre Polynomial	
23		Numericals based on Orthogonality condition	

24		Recurrence formula	
25		Hermite and Laguerre Differential equation	
26		Hermite and Laguerre Polynomial as solutions of the corresponding quations.	
27		Bessel's equation and Bessel's function as solution.	
28		Bessel Functions of the First Kind and Generating Function	
29		Zeros of Bessel Functions $J_0(x)$ and $J_1(x)$	
30		Recurrence relations for Bessel Functions.	
31		Miscellaneous numerical on the unit	
32		Summing Up and home Assignment	
33	Some Special Integrals:	Beta and Gamma Functions properties and applications	4 Marks
34		Applications of Beta and Gamma Functions	
35		Expression of Integrals in terms of Gamma Functions	

36		Error Function and its properties and some simple applications	
37	Theory of Errors:	Types of error: Systematic and Random Errors... Standard and Probable Error..	5 marks
38		Propagation of Errors and applications	
39		Normal Law of Errors	
40		Least-squares fit	
41		Error on the slope and intercept of a fitted line	
42	Partial Differential Equations :	Method of Solutions to partial differential equations, using separation of variables:	14 marks
43		Applications of method of Solutions to partial differential equations, using separation of variables.	
44		Solution of boundary value problems by method of separation of variables.	
45		Laplace's equation in rectangular, cylindrical and spherical coordinates.	
45		Solution of Laplace's Equation in rectangular co-ordinates and B.V. problems	
47		Solution of Laplace's Equation in spherical co-ordinates and B.V. problems.	

48		Solution of Laplace's Equation in cylindrical co-ordinates and B.V. problems.	
49		Derivation of wave equation in 1-dimension: equation of a stretched string.	
50		Solution of vibrational modes of a stretched string and B.V. problems	
51		Derivation of wave equation in 2-dimension: equation of a stretched membrane.	
52		Solution of Diffusion(heat)equation and boundary value problems	
53	Summing Up		NA
54			
	Total Lectures		54

COURSE PLAN

Course –Physics Honours

Semester- V

Paper Code: PH-DSE-2

Name of the Paper-ASTRONOMY AND ASTROPHYSICS

Units Assigned-FULL

Marks Assigned- 80

Class No	Unit	Topic	Number of lectures

1.	UNIT:I Astronomical Scales	Necessity of studying Astronomy and Astrophysics	5 Marks 4 LECTURES
2.		Astronomical Distance, Mass and Time, Scales,	
3		Brightness, Radiant Flux and Luminosity,	
4		Measurement of Astronomical Quantities Astronomical Distances, Stellar Radii	
5		Masses of Stars, Stellar Temperature.	
6			
7	UNIT:II Basic concepts of positional astronomy	Celestial Sphere, Geometry of a Sphere	(20 Lectures, 20 Marks)
8		Spherical Triangle Astronomical Coordinate Systems	
9		Geographical Coordinate Systems	
10		Horizon System, Equatorial System	
11		Conversion of Coordinates.	

12		Diurnal Motion of the Stars,	
13		Measurement of Time, Sidereal Time, Apparent Solar Time	
14		, Mean Solar Time, Equation of Time, Calendar.	
15		Basic Parameters of Stars	
16		Determination of Distance by Parallax Method	
17		,; Brightness, Radiant Flux and Luminosity	
18		Apparent and Absolute magnitude scale,	
19		Apparent and Absolute magnitude scale contd, Distance Modulus;	
20		Determination of Temperature and Radius of a star	
21		Determination of Masses from Binary orbits	
22		Stellar Spectral Classification	
23		Hertzsprung-Russell Diagram.	

24	UNIT:III Astronomical techniques	Basic Optical Definitions for Astronomy Telescope Mountings, (	(6 Lectures, 6 Marks)
25		Magnification Light Gathering Power, Resolving Power and Diffraction Limit, Atmospheric Windows	
26		Optical Telescopes (Types of Reflecting Telescopes continued	
27		Space Telescopes	
28		Detectors and Their Use with Telescopes	
29		Types of Detectors, detection Limits with Telescopes).	
30			
31	UNIT:IV Physical principles 3 Lectures	Gravitation in Astrophysics	3 Marks
		Virial Theorem, Newton versus Einstein	
32		Systems in Thermodynamic Equilibrium	
33	UNIT V The sun 8 Lectures	Solar Parameters,,,. Helioseismology):., .)	7 Marks
34		Layers of the sun:Solar Photosphere, Solar Atmosphere, Chromosphere	

35		Corona, Solar Activity	
36		Basics of Solar Magneto-hydrodynamics	
37		The solar family (Solar System: Facts and Figures, Origin of the Solar System	
38		The Nebular Model	
39		Tidal Forces and Planetary Rings,	
40		Extra-Solar Planets	
41	UNIT: VI Stellar spectra and classification Structure 5 Lectures	Atomic Spectra Revisited	5 Marks
42		Stellar Spectra,	
43		Spectral Types and Their Temperature Dependence	
44		Black Body Approximation,	
45		H R Diagram , Luminosity Classification	
46	UNIT: VII The milky way	Basic Structure and Properties of the Milky Way	16 Marks

47	11 Lectures	Nature of Rotation of the Milky Way	
48		Nature of Rotation of the Milky Way continued	
49		(Differential Rotation of the Galaxy and Oort Constant,	
50		-do	
51		Rotation Curve of the Galaxy,	
52		Rotation Curve of the Galaxy and the Dark Matter, Nature of the Spiral Arms)	
53		Stars and Star Clusters of the Milky Way	
54		do	
55		Properties of and around the Galactic Nucleus.	
56		Sum-up	
57	UNIT:VIII Galaxies 7 Lectures	Galaxy Morphology	8 Marks
58		Hubble's Classification of Galaxies	

59		Elliptical Galaxies, The Intrinsic Shapes of Elliptical	
60		de Vaucouleurs Law, Stars and Gas	
61		Spiral and Lenticular Galaxies, Bulges, Disks, Galactic Halo	
62		The Milky Way Galaxy, Gas and Dust in the Galaxy, Spiral Arms	
63		Sum-Up	
64	UNIT:IX Large scale structure & expanding universe 10 Lectures	Large scale structure,Cosmic Distance Ladder (An Example from Terrestrial Physics,), ().	
65		Measurement of Large scale structure, use of Cosmic Distance Ladder	
66		use of Cosmic Distance Ladder continued	
67		Distance Measurement using Cepheid Variables,	
68		Distance Measurement using Cepheid Variables continued	
69		Hubble's Law (Distance- Velocity Relation), expanding universe	
70		Hubble's Law (Distance- Velocity Relation), expanding universe continued	

71		Clusters of Galaxies	
72		Virial theorem and Dark Matter	
73		Sum-up	

COURSE PLAN Course –M.SC Physics Semester: I Paper Code: PHYG-501 Name of the Paper-MATHEMATICAL PHYSICS Units Assigned: FULL PAPER Marks Assigned:60				
Class No.		Topic/ Unit		Marks
1.	Unit I: Linear Vector Spaces	LECTURE-1	Review of vector analysis , idea of base vector and basis of a vector space	24
2.		LECTURE-2	Definition of vector spaces; finite dimensional vector spaces	

3.	(L 16, T 8)	LECTURE-3	Linear independence, basis and dimensionality, infinite dimensional vector space, Hilbert space	
4			TUTORIAL-1	
5		LECTURE-4	Inner product of vectors and norm of vector,	
6		LECTURE-5	Schmidt's orthogonalization method	
7			TUTORIAL-2	
8		LECTURE-6	Schwarz's and Bessel's inequalities	
9			TUTORIAL-3	
10		LECTURE-7	Linear operators: some important linear operators	
11			TUTORIAL-4	
12		LECTURE-8	Matrices: Types: orthogonal, Hermitian, unitary and normal matrices	
13		LECTURE-9	Inverse of a matrix	
14			TUTORIAL-5	

15		LECTURE-10	Matrix representation of linear operators	
16		LECTURE-11	Linear transformation:Types of	
17		LECTURE-12	Similarity transformation, orthogonal and unitary transformations	
18			TUTORIAL-6	
19		LECTURE-13	eigenvectors and eigenvalues	
20			TUTORIAL-7	
21		LECTURE-14	Diagonalization of matrices (or operators)	
22			TUTORIAL-8	
23		LECTURE-15	Fock space	
24		LECTURE-16	Summing up of linear vector space	
	Unit IV: Tensor Analysis (L 7, T 5,)	LECTURE-1	Basics of tensor algebra	Marks 12
			TUTORIAL-1	

		LECTURE-2	line element and metric tensor	
			TUTORIAL-2	
		LECTURE-3	Associated tensors, Christoffel's symbols	
			TUTORIAL-3	
		LECTURE-4	geodesics,	
		LECTURE-5	covariant derivatives	
			TUTORIAL-4	
		LECTURE-6	Riemannian Christoffel's tensor or curvature tensor, Bianchi identities.	
			TUTORIAL-5	
		LECTURE-7	Summing Up	

COURSE PLAN
Course –M.Sc. Physics
Semester: III
Paper Code: PH-C-IX
PAPER CODE-COMPUTATIONAL PHYSICS
Units Assigned: FULL PAPER
Marks Assigned:60

Class	Unit	Topic/ Unit		marks
6.	Unit II: (L 11, Practical 5,)	LECTURE-1	Introduction to FORTRAN programming	Marks 20
7.		LECTURE-2	Flow chart	
			PRACTICAL-1	
8.		LECTURE-3	Integer and floating point arithmetic,	
9.		LECTURE-4	Expressions,	

10.		LECTURE-5	built-in functions,	
11.		LECTURE-6	Executable and non-executable statements, assignment	
			PRACTICAL-2	
12.		LECTURE-7	Control statements	
		LECTURE-8	input and output elements	
		LECTURE-9	subroutines and functions,	
			PRACTICAL-3	
		LECTURE-10	operation with files,	
		LECTURE-11	Programming examples of numerical methods.	
			PRACTICAL-4	
.		.	PRACTICAL-5	
,	Unit IV : (L 18, Practical 7)	LECTURE-1	Recap :Elementary probability theory and terminology, random variables	Marks 25

		LECTURE-1	Probability distribution binomial and Poisson distributions	
		LECTURE-3	Normal distribution ,central limit theorem	
		LECTURE-4	chi-square test	
			PRACTICAL-1	
		LECTURE-5	Determination of root of functions, roots of nonlinear equations Bisection method,	
		LECTURE-6	Method of false position, Newton-Raphson method	
			PRACTICAL-2	
		LECTURE-7	Numerical integration by trapezoidal and Simpson's rule	
		LECTURE-8	Numerical integration by Simpson's rule	
			PRACTICAL-3	
		LECTURE-9	Numerical differentiation: Finite difference methods	
		LECTURE-10	central difference formula, extrapolation	

			PRACTICAL-4	
		LECTURE-11	Solution of first order ordinary differential equation: Runge-Kutta method.	
			PRACTICAL-5	
		LECTURE-12	Lagrange interpolation polynomial	
			PRACTICAL-6	
		LECTURE-13	Newton-Gregory method	
		LECTURE-14	Linear and non-linear curve fitting	
			PRACTICAL-7	
		LECTURE-15	SUM UP	

COURSE PLAN
Course – M.Sc. Physics
Semester: III
Paper Code: PH-AEC-IIA
Name of the Paper-METEOROLOGY
Units Assigned: FULL PAPER
Marks Assigned:30

Class	UNIT		Topic	marks
	Unit I: Meteorological fundamentals (L 10)	LECTURE-1	Importance and objective and scope of the study of Meteorology, Basics of weather and climate.	Marks 10
		LECTURE-2	composition of the Atmosphere	
		LECTURE-3	structure of the atmosphere	
		LECTURE-4	Meteorological convention	

		LECTURE-5	definition and measurements of Meteorological parameters,	
		LECTURE-6	Different aspects of solar radiation,	
		LECTURE-7	Heat transfer in the atmosphere	
		LECTURE-8	Temperature controls of the atmosphere	
		LECTURE-9	Atmospheric stability	
		LECTURE-10	Hydrostatic equilibrium	
	Unit II: Dynamics of the Atmosphere (L 8)	LECTURE-1	Scales of atmospheric motion, , , , ,;	Marks 10
		LECTURE-2	factors affecting wind (pressure gradient force, Coriolis force, Friction)	
		LECTURE-3	types of wind	
		LECTURE-4	global circulation	
		LECTURE-5	Monsoons, westerlies, El Nino-La Nina	
		LECTURE-6	Thunderstorms: types and formation mechanisms	

		LECTURE-7	weather patterns:.	
		LECTURE-8	cyclone, typhoon, tornados	
	Unit III: Clouds and Precipitation (L 5)	LECTURE-1	Formation of Clouds, ,	Marks 5
		LECTURE-2	Classification of Clouds according to height and shape	
		LECTURE-3	forms and mechanism of Precipitation	
		LECTURE-4	Fog, dew, mist, haze	
		LECTURE-5	role of clouds in climate system.	
	Unit IV: Weather analysis and forecasting (L 5)		Gathering meteorological data and weather maps, ,	Marks 5
			Modern numerical weather prediction methods	
			Ranges of forecasts	
			Satellites in weather prediction	
			SUM-UP	

Department of Political Science

Name of the Teacher-Banjit Kumar Das

Course –Honours

Class/Semester- B.A. 1st Semester

Name of the paper- C 2 (Constitutional Government and Democracy in India)

Units Assigned-III, IV & V

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit	Remarks
1	Organs of Government- The Judiciary- The Supreme Court of India- Composition	
2	Powers and functions of the Supreme Court of India	
3	High Court-Composition, Powers and functions	
4	Judicial Review	
5	Judicial Activism	
6	Relation between Executive and Judiciary	
7	Public Interest Litigation	
8	Federalism- Nature of Indian Federation	
9	Federal and non-federal features of the Indian Constitution	
10	Emergency Provisions	
11	Division of Powers between the Centre and States	
12	Administrative relations between Centre and States	
13	Legislative relations between Centre and States	
14	Financial relations between Centre and States	
15	Causes of Centre State conflicts	
16	Fifth & Sixth Schedule of the Indian Constitution	
17	Panchayatiraj institutions- Village Panchayat-functions	
18	73 rd Amendment	
19	74 th Amendment	
20	11 th & 12 th Schedules	

Name of the Teacher-Banjit Kumar Das

Course –Generic

Class/Semester- B.A. 1st Semester

Name of the paper- GE 1A (Nationalism in India)

Units Assigned-III(Nationalist politics and Expansion of its Social Base)

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit	Remarks
1	The exploitative role of British rule	
2	Nationalist politics under liberals	
3	Swadeshi Movement	
4	Extremist phase of freedom struggle	
5	Beginning of constitutionalism	
6	Indian Council Act, 1909	
7	Government of India Act, 1919	
8	Government of India Act, 1935	
9	Indian Independence Act, 1947	
10	Gandhi and mass mobilization	
11	The non-co-operation Movement	
12	The Civil Disobedience Movement	
13	Quit India Movement	
14	Crip's Mission Plan	

Course plan

Name of the Teacher-Banjit Kumar Das

Course –Honors' / Generic –Honours

Class/Semester- B.A. 2nd Semester

Name of the paper- C-3 (Political Theory-Concepts and Debates)

Units Assigned–II

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Freedom-Introduction, Meaning, Concepts of positive and negative freedom	
2	Kinds of Liberty	
3	Safeguards of liberty	
4	Some dimensions of negative and positive freedom.	
5	Freedom and rights	

6	J.S. Mill on Freedom of Expression	
7	Principles of Utilitarianism	
8	Mill as Utilitarian	
9	Freedom of Expression and Dissent	
10	Discussion	

Course plan

Name of the Teacher-

Course –Honors' / Generic –Honours

Class/Semester-II

Name of the paper- C 4 (Political Process in India)

Units Assigned-I: Political Parties and Party System

III-Regional Aspirations

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit	Remarks
1	Introduction of Party System	
2	Types of Party system	
3	Role of Political parties	
4	Features of Indian party system	
5	The Congress system in India	
6	Activities of Congress after independence	
7	Decline of Congress	
8	Multi Party coalition system	
9	Evolution of multi-party coalition politics in India	
10	Meaning of Regionalism, Indian approach to regional aspirations	
11	The Punjab crisis	
12	The Naga Secessionist Movement	
13	The Mizo Secessionist Movement	
14	Assam and the issue of migration	
15	The Bodo Movement	
16	ULFA issue	
17	The Kashmir Issue	
18	Kargil conflict	

Name of the Teacher-Banjit Kumar Das

Course – Generic

Class/Semester- B.A. 1st Semester

Name of the paper- GE 2A (Feminism: Theory and Practice)

Units Assigned- III (Genesis of Feminist movement in the West)

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Introduction of feminist movement	
2	Status of women from the historic perspective	
3	Seneca Falls Convention	
4	Summary and resolutions of Seneca Falls Convention	
5	Black feminist movement	
6	Reasons for emergence of Black Feminism	
7	Various period of Afro-American Feminism	
8	Suffragist movement in USA	
9	Suffragist movement in Britain	
10	Suffragist movement in France	
11	French Revolution and declaration of the rights of the women	

Course plan

Name of the Teacher-

Course –Honors' / Generic –Honours

Class/Semester-III

Name of the paper- C -5 Introduction to Comparative Government and Politics

Unit's Assigned-II & IV

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Meaning and development of Capitalism	
2	Advantages of Capitalism	
3	Disadvantages of Capitalism	

5	Meaning and development of Globalization	
6	Advantages of Globalization	
7	Disadvantages of Globalization	
8	Impact of Globalization on Government and Politics	
9	Meaning and growth of Socialism	
10	Advantages of Socialism	
11	Disadvantages of Socialism	
12	Constitutional development of Britain	
13	Political economy of Britain	
14	Features of British Constitution	
15	Constitutional development of American Constitution	
16	Political economy of United States of America	
17	Powers and functions of the British King	
18	Powers and functions of the British Prime Minister	
19	Powers and functions of the British Prime Minister	
20	Powers and functions of the American President	
21	Comparison between British Prime Minister and American President	
22	British Parliament and American Congress	

Course plan

Name of the Teacher-

Course –Honours

Class/Semester-III

Name of the paper-C 6- Perspectives on Public Administration

Unit's Assigned-II& V

Marks Assigned- 16 per Unit

Unit : II Theoretical Perspectives- Classical Theories

Serial number of classes	Topic/ Unit	Remarks
1	Scientific Management theory- Objectives and Characteristics and Principles	
2	Criticism of Scientific Management Theory	
3	Administrative Management theory-Henry Fayol's 14 principles of organisation	
5	Luther Gullick's POSDCORB theory	
6	Criticism of Administrative Management Theory	
7	The Bureaucratic theory	

8	Ideal type of Bureacracy by Max Weber	
9	Criticism of Max Weber's theory of Bureacracy	
10	The Human Relations theory	
11	The Hawthorne Experiment	
12	Criticism of Human Relations Theory	
13	New Public Management- Meaning and emergence of New Public Management	
14	Principles of New Public Management	
15	Elements of New Public Management	
16	Strategy for implementing Public Management Reforms	
17	Meaning of New Public Service Approach	
18	Principles of New Public Service Approach	
19	Good Governance	
20	Characteristics of Good Governance	
21	Importance of Good Governance	
22	Discussion on probable questions	
23	Tutorial	

Name of the Teacher-

Course –Generic

Class/Semester-III

Name of the paper-GE- 3B (Governance: Issues and Challenges)

Unit's Assigned-II& IV

Marks Assigned- 16 per Unit

Unit : II Governance and Development

Serial number of classes	Topic/ Unit	Remarks
1	Western concept of development	
2	Capitalist concept of development	
3	Marxian concept of development	
5	Changing dimensions of Development	
6	Concept of development and United States of America	
7	Concept of development of Third World	
8	Development as regional disparity	
9	United Nations concept of Development	
10	Development as sustainable development	
11	Democracy and Good Governance	
12	Conditions for the success of Democracy	

13	Decentralization: Evolution, significance	
14	Democratic decentralization in India	
15	People's participation in governance	
16	Objectives and types of people's participation in administration	
17	Process people's participation in governance	
18	Problems of people's participation in administration	
19	Importance of people's participation in rural development	
20	Measure to boost people's participation in Governance	
21	discussion	

Course plan

Name of the Teacher-Banjit Kumar das

Course –Honors

Class/Semester-IV

Name of the paper-Political Processes and Institutions in Comparative Perspectives

Units Assigned- **–II and IV**

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit	Remarks
1	The concept of election, Types of election	
2	Proportional representation, Advantages and disadvantages	
3	Party system-characteristics	
5	Party System-types	
6	Coalition politics	
7	Critical evaluation of coalition politics	
8	Coalition in the context of India	
9	Coalition in electoral process	
10	Multi party system	

11	Democratisation: Conceptual Understanding	
12	History of democratization	
13	Process of Democratization	
14	Democratization in the post-colonial countries	
15	Democratization in South Asian countries	
16	Democratization in Africa and Middle East	
17	Democratization in post Authoritarian countries	
18	Democratization in post-communist countries	
19	Obstacles to democratization: Reverse wave	
20	How to sustain democratization	
21	Discussion on probable questions	

Class/Semester-IV

Name of the paper –Public Policy and Administration in India

Units Assigned- IV& V

Marks Assigned- 16

Unit: IV- Citizen and Administration Interface

Serial number of classes	Topic/ Unit	Remarks
1	Public Service Delivery- Meaning	
2	Delivering Local and Municipal Services	
3	Challenges in improving Public Service Delivery	
4	Effective Public Service Delivery	
5	Governance and public service delivery in India	
6	Right to Information Act	
7	Lokpal	
8	Citizen's Charter	
9	Principles of service delivery	
10	Reforming Citizen's Charter to make effective	
11	E-Governance	
12	Concept and approaches of social welfare	
13	Social Welfare Policies	
14	Right to Education	
15	National Health Mission	
16	National Food Security Act	
17	Obligations of the Central and State Government	
18	Challenges to food security	
19	MGNREGA	
20	Discussion	

Class/Semester-IV Generic

Name of the paper – GE 4B (United Nations and Global Conflicts)

Units Assigned- II (The Specialised Agencies)

Marks Assigned- 16

Unit: IV- Citizen and Administration Interface

Serial number of classes	Topic/ Unit	Remarks
1	International Labour Organisation	
2	UNESCO	
3	WHO	
4	UN Programmes and Funds	
5	UNICEF	
6	United Nation's Development Programme	
7	United Nation's Environment Programme	
8	United Nation's High Commissioner for Refugees	
9	Discussion	

Course plan

Name of the Teacher- Banjit Kumar das

Course –Honors

Class/Semester-V

Name of the paper- Classical Political Philosophy

Units Assigned- **–II and III**

Marks Assigned- 16 per unit

Unit II- Plato and Aristotle

Serial number of classes	Topic/ Unit	Remarks
1	Plato's life	
2	Plato's theory of Justice	
3	Criticism of Plato's theory of Justice	
4	Plato's theory of Communism– Communism of wives and property	
5	Criticism of Plato's communism of wives and property	

6	Aristotle' on citizenship	
7	Criticism of Aristotle's theory of citizenship	
8	Aristotle on Justice- Distributive Justice and Corrective Justice	
9	Aristotle on State	
10	Aristotle on Revolution- Causes of Revolution	
11	Prevention of Revolution	
12	Discussion	
13	Early life of Machiavelli, Views on Religion	
14	Machiavelli's views on Ethics and Religion	
15	Machiavelli's views on Human nature	
16	Views on StateTheory of Statecraft	
17	Concept of forms of government	
18	Concept of Law	
19	Place of Machiavelli in the history of political thought	
20	Discussion on probable questions	

Course plan

Name of the Teacher- Banjit Kumar Das

Course –Honors

Class/Semester-V

Name of the paper- C-12 (Indian Political Thought-I)

Units Assigned- –III

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Cosmic vision of Manu	
2	Manu on Four Ashramas	
3	Manu on Varna System	
4	Sources of Social Laws	
5	Dharma of the four classes	
6	Manu on Organisation of the state	
7	Manu on qualities of the king	
8	Duties of the king	
9	Manu's ideas on social organization	
10	Manu's rules relating to law	
11	Discussion	

Course plan

Name of the Teacher- Banjit Kumar das

Course –Honors

Class/Semester-V

Name of the paper- DSE – IA (Contemporary Politics in Assam)

Units Assigned- – II(Politics of Autonomy in Assam)

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Regionalism: Introduction and Meaning	
2	Causes of Regionalism in Assam	
3	Sub-Regionalism in Assam	
4	Demand for Autonomous state of the Bodos	
5	Demand for Autonomous State of the Karbis	
6	Demand for separate state of the various tribes in Assam	
7	Solution for the demand of autonomous state	
8	Demand for sixth schedule	
9	Provisions f the sixth schedule of the constitution	
10	Discussion	

Name of the paper- DSE – II- A (Human Rights in Comparative Perspectives)

Units Assigned- – III (Rights in National Constitutions: South Africa and India)

Marks Assigned- 16

Serial number of classes	Topic/ Unit	Remarks
1	Bill Of Rights in South Africa	
2	Various sections of Bill of Rights in South Africa	
3	Various sections of Bill of Rights in South Africa	
4	Political Rights in Bill ofRights	
5	Various sections	
6	Various sections of Bill of Rights	
7	Various sections of Bill of Rights	

8	Human Rights in India	
9	Fundamental Rights	
10	Directive Principles of State Policies	
11	National Human Rights Commission	
12	State Human Rights Commission	
13	National Commission for Women	

B.A. 6thSem(Non- CBCS)

Name of the paper- 604 (Indian Foreign Policy)

Units Assigned- – I,II,III,IV& V

Marks Assigned- 16 per unit

Unit-I (A brief understanding of India's Foreign Policy)

Serial number of classes	Topic/ Unit	Remarks
1	Introduction, Meaning and Definition	
2	Origin and evolution of India's foreign policy	
3	Objectives of Indian foreign policy	
4	Panchsheel policy	
5	Evolution of India's foreign policy	
6	Foreign policy during the time of Nehru	
7	Foreign policy during the time of Indira Gandhi	
8	Determinants of India's foreign policy	
9	Domestic and external factors	
10	Non-alignment in India's foreign policy	
11	Role and relevance of non-alignment	
12	Continuity and changes in Indian foreign policy	

Unit- II(India and Outside World)

Serial number of classes	Topic/ Unit	Remarks
1	Indo-US relations(Cold War period)	
2	Indo-US relations(post Cold War era)	
3	Indo US relations till date	
4	Indo-us relations till date	
5	Indo-USSR relations(Cold War Period)	
6	Indo-Russian Federation relations(post-Cold War Period)	
7	Indo-Russian Federation relations till date	
8	Indo-Soviet Peace, Friendship and Co-operation	

	Treaty, 1971	
9	Indo-China Realties	
10	Indo-China relations and Tibet	
11	India's Look East Policy and South East Asia	
12	Various dimensions of Look East Policy	

Unit- III(India's policy towards neighbor)

Serial number of classes	Topic/ Unit	Remarks
1	Indo- Pak relations	
2	Kashmir Issue	
3	Indo-Pak War, 1965, 1971	
4	The Shimla Pact, 1972	
5	Indo-Bangladesh Relations	
6	Indo Bangladesh relations during the time of Manmohan Singh	
7	Indo-Bangladesh relations during the time of NarendraModi	
8	Indo-Nepal relations	
9	Indo-Nepal relations during the time of King's rule in Nepal	
10	Indo-Nepal relations after Monarchy in Nepal	
11	Discussion	

Unit-IV(India and Multi-lateral Institutions)

Serial number of classes	Topic/ Unit	Remarks
1	India and United Nations	
2	India and UN Reforms	
3	India's role in UN peace keeping mission	
4	India and SAARC	
5	Main aims and objectives of SAARC	
6	India's policy response to regional co-operation in South Asia	
7	Post-Cold War Indian policy	
8	Economic diplomacy in India's foreign policy	
9	Transformation of India's Economic policy since 1991	
10	Discussion	

Unit-V(India's Approach to Major Global Issues)

Serial number of classes	Topic/ Unit	Remarks
1	The concept of globalization, Meaning	
2	Characteristics of Globalization	
3	India and Globalization	
4	Resistance to globalization	
5	Merits and demerits of globalization	
6	India's approach to nuclear issues	
7	India's nuclear policy	
8	Global terrorism	
9	Definition and characteristics of terrorism	
10	Combating terrorism	
11	Human Rights	
12	Global environmental concerns	

Syllabus/ Course Distribution – Session- September/21 to February/22

SEMESTER	Paper code	Name of the paper	UNIT	Teacher
I	C 1	UNDERSTANDING POLITICAL THEORY	1 & 2 2,3 & 4	JITU BORAH JANARDAN BORAH
I	C 2	CONSTITUTIONAL GOVERNMENT AND DEMOCRACY IN INDIA	1 & 2 2,3 & 4	ARUN DUTTA BANJIT DAS
I	GE 1A	NATIONALISM IN INDIA	1 & 5 2 3 4	JANARDAN BORAH ARUN DUTTA BANJIT DAS JITU BORAH
III	C 5	INTRODUCTION TO COMPARATIVE GOVERNMENT AND POLITICS	1 & 3 2 & 4 5	ARUN DUTTA BANJIT DAS JITU BORAH
III	C 6	PERSPECTIVES ON PUBLIC ADMINISTRATION	1 & 4 2 & 5 3	ARUN DUTTA BANJIT DAS JANARDAN BORAH
III	C 7	PERSPECTIVES ON INTERNATIONAL RELATIONS AND WORLD HISTORY	1 & 2 3,4 & 5	JITU BORAH JANARDAN BORAH
III	GE 3B	GOVERNANCE: ISSUES AND CHALLENGES	1 & 5 2 3 & 4	JITU BORAH JANRDAN BORAH

				BANJIT DAS
V	C 11	CLASSICAL POLITICAL PHILOSOPHY	1 2 & 3 4 5	JITU BORAH BANJIT DAS JANARDAN BORAH ARUN DUTTA
V	C 12	INDIAN POLITICAL THOUGHT-1	1 & 2 3 4 5	ARUN DUTTA BANJIT DAS JITU BORAH JANARDAN BORAH
V	DSE 1A	CONTEMPORARY POLITICS IN ASSAM	1 & 4 2 3 5	JANARDAN BORAH BANJIT DAS JITU BORAH JANARDAN BORAH
V	DSE 2 A	HUMAN RIGHTS IN COMPARATIVE PERSPECTIVES	1 2 & 5 3 4	ARUN DUTTA JITU BORAH BANJIT DAS JANARDAN BORAH

BANJIT KUMAR DAS

HOD, DEPT. OF POLITICAL SCIENCE

COURSE PLAN

DR.JANARDAN BORAH

**Associate Professor in Political Science
Digboi College.**

Name of the Teacher-JANARDAN BORAH

Course – HONOURS

Semester- I

Name of the paper-UNDERSTANDING POLITICAL THEORY

Units Assigned-IV:Political theory and practice-I

UNIT –V:POLITICAL THEORY AND PRACTICE -II

Marks Assigned- 16 per unit.

Serial number of classes	Topic/ Unit=I	Remarks
1	Citizenship- introduction, meaning and definitions	
2	Types- Active and passive	
3	Liberal Citizenship	
4	Universal citizenship	
5	Feminism and citizenship	
6	Marxist critique of citizenship	
7	Types of State- patriarchal state-	
8	Liberal and Marxist	
9	State and Civil Society.	
Serial number of classes	UNIT - V	Remarks
1	Democracy- Introduction, meaning, definition.	
2	Direct democracy- methods of direct democracy	
3	Liberal democracy	
4	Communist democracy	
5	Procedural democracy	
6	Deliberative democracy	
7	Debates- democracy and differences	
8	Representation and participation	
9	Democracy and development	

Course plan

Name of the Teacher-JANARDAN BORAH

Course – Generic

Class/Semester-I

Name of the paper- NATIONALISM IN INDIA

Units Assigned-I- Approaches to the study of Nationalism in India.

Marks Assigned- 16

Serial number of classes	Topic/ Unit I	Remarks
1	Nationalism : Introduction, concept of Nationalism, Definitions of nationalism.	
2	Characteristics of nationalism, symbols of nationalism, factors or elements of nationalism.	
3	Indian nationalism, rise of nationalism, birth of Indian National Congress.	
5	Background and causes of Indian nationalism	
6	Approaches to the study of Indian Nationalism. Imperialist Approach.	
7	Nationalist approach and its criticism.	
8	Marxist Approach and criticism.	
9	Subaltern approach and its shortcoming.	

Course plan

Name of the Teacher-JANARDAN BORAH

Course –Honors

Semester-III

Name of the paper- Perspective on Public Administration.

Unit Assigned-III –THEORITICAL PERSPECTIVE.

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit III	Remarks
1	Introduction about public Administration, theoretical perspective on public Administration.	
2	Ecological approach(F.W.Riggs)	
3	Innovation theory of Peter Drucker.	

4	Entrepreneurship theory of Peter Drucker	
5	Need Hierarchy (Abraham Maslow)	
6	Need Hierarchy (Abraham Maslow) Critical Assessment.	
7	Discussion about the chapter.	

Course plan

Name of the Teacher- JANARDAN BORAH

Course –Honors

Semester-III

Name of the paper- Perspective on International Relations and world History

Unit's Assigned-III – An Overview of Twentieth Century International Relations History

Unit- IV- Cold war and Post-Cold War.

Marks Assigned- 16 each unit.

Serial number of classes	Topic/ Unit III	Remarks
1	Introduction about the history of International relations.	
2	World War I, Causes of WW-I	
3	Consequences of World War -I	
4	Bolshevik Revolution	
5	Rise of Nazism	
6	Rise of Fascism	
7	World War -II	
8	Consequences of World War -II	
9	Discussion.	
Serial number of classes	Topic/ Unit IV	Remarks
1	Introduction about Cold War	
2	Causes of Cold War	
3	Different Phases of Cold War	
4	Emergence of the Third World	
5	Collapse of the USSR	
6	End of the Cold War	
7	Post- Cold War Development	
8	Emergence of Other Centers of Power	
9	Discussion	

Course plan

Name of the Teacher-JANARDAN BORAH

Course – Generic Elective (GE)

Semester-III

Name of the paper-Governance: Issues and Challenges

Unit Assigned–III:**Environmental Governance.**

Marks Assigned- 16

Serial number of classes	Topic/ Unit III	Remarks
1	Introduction about Environment	
2	Environmental governance	
3	Human-environment interaction	
5	Green governance	
6	India and green governance	
7	Human development	
8	Sustainable human development	
9	India and sustainable human development	
10	Human development report(UNDP,UNMDGs)	

Course plan

Name of the Teacher-Janardan Borah

Course –Honors'

Semester-V

Name of the paper-Classical Political Philosophy

Units Assigned- –IV- Possessive Individualism- Hobbes.

Marks Assigned- 16

Serial number of classes	Topic/ Unit- IV	Remarks
1	Introduction about Hobbes. His contributions to political science.	
2	Hobbes human nature	
3	State of nature	
4	Social contract	

5	Nature of contract, criticism	
6	State; atomistic individuals	
7	Differences between Hobbes and Lock's social contract.	
8	Discussion	

Course plan

Name of the Teacher-Janardan Borah

Course –Honors'

Semester-V

Name of the paper –Indian Political Thought-I

Units Assigned- –V – Barani: Ideal Polity, Abul Fazal: Monarchy, Kabir: Syncretism

Marks Assigned- 16

Serial number of classes	Topic/ Unit- V	Remarks
1	Life sketch of Ziauddin Barani, his contributions.	
2	Ideal Sultan	
3	Nobility, iqtadar	
4	Ideal polity	
5	Introduction about Abul Fazal and his contributions	
6	Theory of Kingship	
7	Sovereignty	
8	Sul-I-kul-Doctrines of Peace	
9	Justice, Administration, Land revenue and Army	
10	Fazal's views on Religion	
11	Introduction about Kabir. His contributions.	
12	Syncretism.	
13	Kabir's Political Thought	

Course plan

Name of the Teacher-Janardan Borah

Course –Honors'

Class/Semester-V

Name of the paper- CONTEMPORARY POLITICS IN ASSAM (DISCIPLINE SPECIFIC ELECTIVE – DSE)

Units Assigned- –I-Composite state of Assam and its dismemberment- Geo-political features, Colonial Legacy, Social Heterogeneity, Assamese Nationality Question.

Unit – II- Politics of Ethnicity in Assam: politics of immigration and its impact on identity movement-language movement-Assam movement- Insurgency and Secessionist movement.

Marks Assigned- 16 each unit.

Serial number of classes	Topic/ Unit - I	Remarks
1	Emergence of Assam and North East as a Region	
2	Composite of state of Assam and its Dismemberment	
3	Geo-political features of Assam	
4	Legacy of Colonial Rule	
5	Heterogeneous character of Assamese society	
6	Tribal and Non-tribal politics in Assam	
7	Assamese Nationalism and Question in Nationality.	
8	Discussion	
Serial number of classes	Topic/ Unit- II	Remarks
1	Politics of Ethnicity and identity in Assam	
2	Politics of Migration	
3	Politics of immigration and its impact on identity movement	
4	Language Movement	
5	Insurgency and Secessionist Movement.	
6	Tribal Belt	
7	Foreign National Movement	
8	Discussion	

Course plan

Name of the Teacher-Janardan Borah

Course –Honors’

Class/Semester-V

Name of the paper – DSE 02.HUMAN RIGHTS IN A COMPARATIVE PERSPECTIVE.

Units Assigned- –IV – ISSUES OF HUMAN RIGHTS: Torture: USA and India, Surveillance and Censorship: China and India, Terrorism and Insecurity of Minorities: USA and India.

Marks Assigned- 16

Serial number of classes	Topic/ Unit - IV	Remarks
1	Introduction, meaning, definitions of torture.	
2	Torture in USA	
3	Torture in India	
4	Different types of torture	
5	Surveillance meaning and definition	
6	Censorship meaning and definition	

7	Surveillance and Censorship in China	
8	Surveillance and Censorship in India.	
9	Meaning and definitions of terrorism.	
10	Insecurity of minorities	
11	Terrorism and insecurity of minorities in USA	
12	Terrorism and insecurity of minorities in India	

Name of the Teacher- JANARDAN BORAH

Course – HONOURS

Semester- II

Name of the paper-2.1 POLITICAL THEORY: CONCEPTS AND DEBATES

Units Assigned- I- FREEDOM: Negative Freedom: Liberty: Positive Freedom: Freedom as Emancipation and Development. Freedom and other concepts-equality, rights, freedom of belief, expression and dissent.

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit-I	Remarks
1	Freedom/liberty – introduction, meaning, definitions.	
2	Negative liberty	
3	Positive liberty	
4	Difference between negative and positive liberty.	
5	Different types of liberty	
6	Safeguard of liberty	
7	Freedom as Emancipation and Development	
8	Freedom and other concepts --equality	
9	Freedom and other concepts --rights	
10	Freedom and other concepts –freedom of belief.	
11	Freedom and other concepts –freedom of expression and dissent.	
12	discussion	

Name of the Teacher- JANARDAN BORAH

Course – HONOURS

Class/Semester- II

Name of the paper-2.2 POLITICAL PROCESS IN INDIA

Units Assigned- I: Political Parties and the Party System.

Unit- V: The changing nature of the Indian State.

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit=I	Remarks
1	Introduction, definition of political party, type of political party.	
2	Characteristics of Indian party system	
3	Differences between political party and pressure groups/ interest groups.	
4	Trends in the party system	
5	End of single party dominance	
6	Multi party system	
7	Coalition party	
8	Opposition party	
9	Multi Party Coalition to Single Party Majority System	

Serial number of classes	Topic/ Unit=V	Remarks
1	Changing nature of the Indian States- Introduction	
2	Changing nature of development of the Indian States- Introduction	
3	Different dimensions of development.	
4	Coercive Dimentions	
5	Globalization	
6	Discussion	

Name of the Teacher- JANARDAN BORAH

Course – GENERIC ELECTIVE

Class/Semester- II

Name of the paper- FEMINISM: THEORY AND PRACTICE.

Units Assigned- V: THE INDIAN EXPERIENCE.

Marks Assigned- 16

Serial number of classes	Topic/ Unit=V	Remarks
1	Contemporary issues in Feminism.	
2	Environment	
3	Domestic violence	
4	Rape, Dowry, Sexual Harassment at work place	
5	Right to Property and Customary versus Constitutional Law.	
6	Gender Relations in India	
7	Family- Matrilineal and Patrilineal	
8	Women and work	
9	Discussion	

Name of the Teacher- JANARDAN BORAH

Course – HONOURS

Class/Semester- IV

Name of the paper-4.3: GLOBAL POLITICS

Unit Assigned-II: Issues and Institutions in Global Politics.

UNIT –III: Contemporary Global Issues –I

UNIT- V : Global Shift : Power and Governance.

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit=II	Remarks

1	Introduction about global politics.	
2	Global economy	
3	Significance and Anchor of global Political Economy	
4	IMF	
5	World Bank	
6	WTO	
7	Global resistance	
8	Global social movements-World Social Forum.	
9	Global social movements-Amnesty International and Green Peace.	
10	Discussion	

Serial number of classes	Topic/ Unit=III	Remarks
1	Introduction about contemporary Global Issues	
2	Proliferation of Nuclear Weapons	
3	NPT	
4	CTBT	
5	Terrorism	
6	Non-State Actors and State Terrorism.	
7	9/11 attack	
8	Post 9/11 development(The UN initiatives)	
9	Discussion	
Serial number of classes	Topic/ Unit = V	Remarks
1	Introduction about Global Shifts.	
2	Power and Governance	
3	Concept of Global Governance	
4	Role of Global Governance in contemporary International Relations	
5	Global North – South Debate	
6	Discussion	

Name of the Teacher- JANARDAN BORAH

Course- GE-4B

Class/Semester- IV

Name of the paper-United Nations and Global Conflicts.

Units Assigned- Unit – I: The United Nations-I

Unit – III: Peace keeping, Peace Making and Enforcement, Peace Building and Responsibilities to protect (e) Millennium Development Goals.

Marks Assigned- 16 per unit.

Serial number of classes	Topic/ Unit=I	Remarks
1	Introduction/ an historical overview of the UN	
2	Objective of UN	
3	Principles of UN	
4	Organs of UN	
5	Structure and functions of General Assembly	
6	Structure and functions of Security Council	
7	Structure and functions of Economic and Social Council	
8	Structure and functions of International Court of Justice	
9	Secretary and Secretary General, his power, functions and responsibilities	
10	Discussion	

Serial number of classes	Topic/ Unit=III	Remarks
1	Peace Keeping- meaning, definitions.	
2	Methods of peace keeping	
3	Peace making	
4	Peace enforcement	
5	Peace Building and responsibility to protect.	
6	Millennium Development Goals	
7	Discussion	

Name of the Teacher- JANARDAN BORAH

Course – HONOURS/MAJOR

Class/Semester- VI (Non-CBCS)

Name of the paper-ADMINISTRATION OF RURAL DEVELOPMENT IN INDIA

Units Assigned- I to V

Marks Assigned- 16 per unit

Serial number of classes	Topic/ Unit=I	Remarks
1	Introduction, definitions of Rural Development, meaning.	
2	Nature and scope of RD	
3	Importance/significance of RD	
4	Strategies of RD	
5	Approaches to the study of RD	
6	Community Development Programme, NES	
7	Historical Background of RD in India	
8	Discussion	
9		

Serial number of classes	Topic/ Unit=II	Remarks
1	Administrative set up of Rural Development in India.	
2	National Level, NIRD	
3	State level, SIRD	
4	District Level	
5	DRDA	
6	Role of Deputy Commissioner in the District Level Administration	
7	Block Level Administration	
8	Role of BDO in Block level Administration	
9	Local Level (Role of VLW)	
10	Discussion	

Serial number of classes	Topic/ Unit=III	Remarks
1	Panchayati Raj and Rural Development in India.	
2	Role of PRI	
3	73 rd Amendment Act 1992	
4	Role of NGOs	
5	Role of SHGs	
6	Women in Rural Development	
7	People's participation and co-operation in Rural Development	
8	Problems of Rural Development	
9	Suggestions for Rural Development	
10	Discussion.	

Serial number of classes	Topic/ Unit=IV	Remarks
1	An analysis of Rural Development Programme.	
2	IRDP	
3	NREP	
4	TRYSEM	
5	DWCRA	
6	JRY	
7	EAS	
8	IAY	
9	SGSY	
10	NREGA	
11	MGREGS	
12	Implementation, monitoring and evaluation.	

Serial number of classes	Topic/ Unit=V	Remarks
1	Problems of Rural Development.	

2	Poverty	
3	Illiteracy	
4	Unemployment	
5	Rural credit	
6	Employment	
7	Scope for Traditional courses of Rural Employment	
8	Scope for Non-traditional courses of Rural Employment	
9	Discussion	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester-B.A.1st Semester

Name of the Paper- C1 (Understanding Political Theory)

Units Assigned- Unit-I & III

Marks Assigned- 32 (16 per unit)

Class	Topic/ Unit	Remarks
1.	Unit-I Politics and Theorizing the Political	
2.	Theory , Political Theory and importance of Political Theory.	
3.	Development of Political Theory.	
4.	Approaches, Methods and its classifications and differences	
5.	Normative Approach to Political Theory	
6.	Historical Approach to Political Theory	
7.	Empirical Approach to political Theory	
	Unit-III	
8	Feminism, Meaning, Nature, and Scope.	
9.	Origin and Evolution of Feminism.	
10	Approaches to the study of Feminism.	
11.	Liberal Feminism	
12.	Radical Feminism	
13.	Third World Feminism.	
14.	Postmodernism	
15.	Development of Postmodernism	
16.	Differences between Postmodernism and Modernism.	

Course –Generic Elective

Class/Semester-B.A.1st Semester

Name of the Paper- GE-1A (Nationalism in India)

Unit's Assigned- Unit-IV

Marks Assigned- 16

Class	Topic/Unit	Remarks
1.	Social Movement, Meaning, Types and character	
2.	New Social Movements.	
3.	Women's Participation in National Movement.	

4.	Caste and Anti Brahminical Politics	
5.	Peasants Movement in India	
6.	Tribal Movements	
7.	Worker's Movement	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A. 3rd Semester

Name of the Paper- C5 (Introduction to Comparative Government and Politics)

Units Assigned- Unit –V

Marks Assigned- 16

Class	Topic/ Unit	Remarks
1.	Political system of Brazil	
2.	Constitutional Development of Brazil	
3.	Salient Features of the Constitution	
4.	Political Economy of Brazil	
5.	Judiciary	
6.	Representation and Participation	
7.	Evolution of Modern Nigeria	
8.	Constitutional Development of Nigeria	
9.	Political Institution and Processes	
10.	Fundamental Principles of the Constitution	
11.	Federalism in Nigeria	
12.	Representation and Participation in Nigeria	
13.	Political Economy	
14.	China at a glance	
15.	Historical Perspective of the Chinese Constitution	
16.	Political System of China	
17.	Constitutional Development of China	
18.	Fundamental Features of the Constitution of China	
19.	Representation and Participation	
20.	Political Economy of China	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A. 3rd Semester

Name of the Paper- C7 (Perspectives on International Relations and World History)

Units Assigned- Unit-I & II

Marks Assigned- 32 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Origin and Growth of International Relations	
2.	Meaning, Nature and Scope of International Relations	

3.	Levels of analysis of International Relations	
4.	Emergence of International State System	
5.	Pre-Westphalia and Westphalia Period	
6.	Post-Westphalia Period	
	Unit-II	
7.	Realist School of thought	
8.	Classical realism	
9.	Neo-Realism	
10.	Morgenthau six principles of Realism	
11.	Structural Realism: Kenneth Waltz	
12.	Difference between classical and structural Realism	
13.	Liberal and Neo-liberal Approach	
14.	Liberalism and its Core ideas	
15.	Neo-Liberalism	
16.	Marxist Approach	
17.	Feminist Approach	
18.	Eurocentricism and perspective from Global South.	

Course Plan

Name of the Teacher- Jitu Borah

Course – Generic

Class/Semester- B.A. 3rd Semester

Name of the Paper- GE-3B (Governance: Issues and Challenges)

Units Assigned- Unit-I & V

Marks Assigned- 32 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Concept of Government and Governance	
2.	Differences between Government and Governance	
3.	Good Governance and its Character	
4.	Role of State in the age of Globalization	
5.	Role of Civil Society in the Era of Globalization	
6.	Role of Market in the Globalized world	
	Unit-V	
7.	Good Governance initiatives in India	
8.	Public Service Guarantee Act	
9.	Electronic Governance in India and its advantages & disadvantages	
10.	Citizens Charter	
11.	Right to Information	
12.	Corporate Social Responsibility	

Course Plan

Name of the Teacher- Jitu Borah

Course – Skill Enhancement Course

Class/Semester- B.A. 3rd Semester

Name of the Paper- SEC-I (Human Rights and Enforcement Mechanisms)

Units Assigned- Unit-IV

Marks Assigned- 10

Class	Topic/Unit	Remarks
1.	Regional Enforcement Mechanism of Human Rights	
2.	European Court of Human rights	
3.	American Court of Human Rights	
4.	African Court of Human Rights	
5.	Other Regional Enforcement Agencies	
6.	Minorities Commissions	
7.	UN System	

Course Plan

Name of the Teacher- Jitu Borah

Course – Major Non-CBCS

Class/Semester- B.A. 5th Semester

Name of the Paper- 504(M) International Law

Units Assigned- Unit- I, II, III, IV,& V

Marks Assigned- 80 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Meaning, Nature and Scope of International Law.	
2.	Development of International Law	
3.	Difference between International Law and Municipal Law	
4.	Sources of International law	
5.	Contemporary theories of International Law	
6.	Limitations of International Law	
7.	Position of Individual in International Law	
	Unit-II	
8.	Modes of acquiring state territory	
9.	Modes of losing state territory	
10.	Recognition, Principles,& Methods	
11.	Theories of Recognition	
12.	Types of Recognition & Consequences	
13.	Indian Policy of Recognition	
14.	International Responsibility of states and other International Powers	
	Unit-III	
15.	War & its Kinds	
16.	Laws of Land warfare	
17.	Geneva Convention,1949	
18.	Laws of Sea Warfare	
19.	Declaration of Paris, 1856	
22.	Laws of Air Warfare	
23.	Washington Conference	
24.	Position of Non-Combatant	
	Unit-IV	
25.	International Humanitarian Law	
26.	International Human Rights Law	
27.	Difference between International Humanitarian Law & Human Rights Law	
28.	International Refugee Law	
29.	International Air & Space Law	

30.	India's Contributions to the development of International Space Law	
	Unit-V	
31.	International Environmental Law	
32.	International Economic Law	
33.	NIEO	
34.	Intellectual Property Rights	
35.	WTO	
36.	India & WTO	
37.	UN Conference on Environment and Development	

Course Plan

Name of the Teacher- Jitu Borah

Course – Non-Major

Class/Semester- B.A. 5th Semester

Name of the Paper- 501 (Administration of Rural Development of India)

Units Assigned- Unit-IV&V

Marks Assigned- 32 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-IV	
1.	Rural Development Programmes at a glance	
2.	IRDP	
3.	NIRP	
4.	TRYSEM	
5.	DWCRA	
6.	JRY	
7.	EAS	
8.	IAY	
9.	SGSY	
10.	Implementation, monitoring and evaluation	
	Unit-V	
11.	Rural Development and its various Problem	
12.	Poverty	
13.	Illiteracy	
14.	Unemployment	
15.	Rural Credit	
16.	Traditional Courses in Rural Development	
17.	Non-traditional Courses in Rural Development	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A.2nd Semester

Name of the Paper- C3 (Political Theory-Concepts and Debates)

Unit's Assigned- Unit-V

Marks Assigned- 16

Class	Topic/ Unit	Remarks
	Unit-V	
1.	why should we obey the State?	

2.	Political Obligation & its issues	
3.	Civil- Disobedience	
4.	Challenges to the Sovereignty of the State	
5.	Universality of Human Rights	
6.	Issues of Cultural Relativism	
7.	How do we accommodate diversity in Plural Society?	
8.	Multiculturalism	
9.	Issues of Multiculturalism & Toleration	
10.	Tolerance and the new wars of Religion	
11.	Clashes of Civilization	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A.2nd Semester

Name of the Paper- C4 (Political Process in India)

Unit's Assigned- Unit- II

Marks Assigned- 16

Class	Topic/Unit	Remarks
	Unit-II	
1.	Election System in India	
2.	Features of Election System	
3.	Procedure of Election Process	
4.	Election Commission in India	
5.	Importance of Election in a democratic Country	
6.	Political Mobilization	
7.	Political Leadership	
8.	Qualities of a good political leader	
9.	Voting Behaviour	
10.	Major determinants of Voting Behaviour	
11.	Electoral Reforms in India	

Course Plan

Name of the Teacher- Jitu Borah

Course –Generic

Class/Semester- B.A. 2nd Semester

Name of the Paper- GE-2A (Feminism: Theory and Practice)

Units Assigned- Unit- I & IV

Marks Assigned- 32 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Origin and Development of Feminism	
2.	Meaning, Nature and Importance	
3.	Distinction between Sex and Gender	

4.	Patriarchy and different Theories of Patriarchy	
5.	Socialization and its types	
6.	Gender Socialization	
7.	Sexual Division of Labour	
8.	Private-Public Dichotomy	
9.	Biologism versus Constructivism	
	Unit-IV	
10.	Emergence of Feminism and Communist Movement in China	
11.	Contribution of Rosa Luxembourg in Women Movement	
12.	Role of Alexandria Kollontai in the Women's Emancipation Movements	
13.	Feminist issues and Women's Participation	
14.	Women's Participation in anti-colonial Movement	
15.	Women Participation in the national Movements in India.	
16.	Women Participation in Swadeshi Movement	
17.	Role of women in Quit India Movement	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A.4th Semester

Name of the Paper- C8 (Political Processes and Institutions in Comparative Perspective)

Units Assigned- Unit-V

Marks Assigned- 16

Class	Topic/ Unit	Remarks
	Unit-V	
1.	Federation and its Character	
2.	Conditions for success of Federation	
3.	Historical Context of Federalism	
4.	Pattern of Federalism	
5.	Federation and Confederation	
6.	Debates around Territorial division of Power	
7.	Elements in the formation of different Federation	
8.	Sharing of Sovereignty	
9.	Contemporary Debates on Federalism	
10.	Federalism in Practice	
11.	Growth of Centralizing tendency of modern Federation	
12.	Recent Trend in Federalism	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A.4th Semester

Name of the Paper- C10 (Global Politics)

Units Assigned- Unit- I & IV

Marks Assigned- 32 (16 per Unit)

Class	Topic/Unit	Remarks
	Unit-I	
1.	Concept of Globalization	

2.	Features of Globalization	
3.	Advantages and Disadvantages of Globalization	
4.	Factors leading to Globalization	
5.	Consequences of Globalization (political,economic,cultural)	
6.	Impact of Globalization in the Third World Countries	
7.	Alternative Perspective on Globalization	
8.	Hyperglobalist perspective on Globalization	
9.	Sceptical Perspective on Globalization	
10.	Transformationlist Perspective on Globalization	
11.	Political Debate on Sovereignty and Territory	
12.	Emergence of the concept of Deterritorialization	
13.	Emergence of International Political Structure	
	Unit-IV	
14.	Ecological Issues	
15.	Historical Overview of International Environmental Agreement	
16.	Stockholm Conference,1972	
17.	Montreal Protocol,1987	
18.	The Earth Summit,1992	
19.	Kyoto Protocol, 1997	
20.	Paris Agreement, 2015	
21.	Climate Change	
22.	Migration & factors leading to Migration	
23.	Impact of Migration in world Politics	
24.	Human Security	

Course Plan

Name of the Teacher- Jitu Borah

Course – Generic

Class/Semester-B.A.4th Semester

Name of the Paper- GE-4B (United Nations and Global Conflicts)

Units Assigned- Unit-II & V

Marks Assigned- 32 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-II	
1.	International Labour Organization	
2.	UNSCO	
3.	WHO	
4.	UN Programmes and Fund	
5.	UN Children's Fund (UNICEF)	
6.	UNDP	
7.	UNEP	
8.	UNHCR	
	Unit-V	
11.	UN as an International Organization	
12.	Mechanism for Operation of UNO	
13.	Role of UNO in the International World	
14.	UN Security System	
15.	Reforms of UNO	
16.	Process of Reforms of United Nation	
17.	Present trends of the Role of UNO in the World	

Course Plan

Name of the Teacher- Jitu Borah

Course – Major Non-CBCS

Class/Semester- B.A.6th Semester

Name of the Paper- 602 (Introduction to Women's Studies)

Units Assigned- Unit- I, II, III, IV & V

Marks Assigned- 80 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Meaning & Definitions of Women's studies	
2.	Nature & Scope of Women's Studies	
3.	Importance of Women's Studies	
4.	Objectives of Women's Studies	
5.	Development of women's Studies as an academic discipline	
6.	Present trends of Women's Studies in Research and academics	
	Unit-II	
7.	Approaches of Women's Studies	
8.	Liberal Approach	
9.	Marxist Approach	
10.	Radical Approach	
11.	Third World Approach	
	Unit-III	
12.	Patriarchy and its theories	
13.	Sex and Gender distinction	
14.	Socialization and its agencies	
15.	Gender Socialization	
16.	Public-Private Division	
17.	Sexual Division of Labour	
	Unit-IV	
18.	Women's Movements and its Nature, Objectives	
19.	Origin and Growth of Western Women's Movement	
20.	Origin and development of women's Movement in India	
21.	National Women's Organization and its role	
22.	National Commission for Women	
23.	Issues and Present Status of Women's Movement in India	
24.	Present Status of western Feminist Movement	
	Unit-V	
25.	Women Oppression and its various forms	
26.	Socio-Cultural analysis of women's Oppression	
27.	Women Oppression in Family	
28.	Education and women Oppression	
29.	Religion and Women Oppression	
30.	Women Oppression in Economic Spheres	
31.	State and Women Oppression	
32.	Women Oppression in Media	
33.	Measures for the elimination of Women Oppression in the International context	
34.	Measures for elimination of women oppression in India	

Course Plan

Name of the Teacher- Jitu Borah

Course – Non-Major

Class/Semester- B.A. 6th Semester

Name of the Paper- 601(Human Rights)

Units Assigned- Unit- I & II

Marks Assigned- 32 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Concept of Human Rights	
2.	Nature and Scope of Human Rights	
3.	Importance of Human Rights and Human Rights Education	
4.	Development of Human Rights	
5.	First Generation of Human Rights	
6.	Second Generation of Human Rights	
7.	Third Generation of Human Rights	
8.	Contributions of Hobbes to the development of Human Rights	
9.	Contribution of Locke to the development of Human Rights	
10.	Rousseau's contributions in the development of Human Rights	
	Unit-II	
11.	Universalistic Approach to Human Rights	
12.	Relativist Approach	
13.	Marxist Perspective on Human Rights	
14.	Third World Perspective on Human Rights	
15.	Gandhian Perspective on Human Rights	
16.	Relevance of Gandhian Approach to Human Rights	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester-B.A.1st Semester

Name of the Paper- C1 (Understanding Political Theory)

Units Assigned- Unit-I & III

Marks Assigned- 32 (16 per unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Politics and Theorizing the Political	
2.	Theory , Political Theory and importance of Political Theory.	
3.	Development of Political Theory.	
4.	Approaches, Methods and its classifications and differences	
5.	Normative Approach to Political Theory	
6.	Historical Approach to Political Theory	
7.	Empirical Approach to political Theory	
	Unit-III	
8	Feminism, Meaning, Nature, and Scope.	
9.	Origin and Evolution of Feminism.	
10	Approaches to the study of Feminism.	
11.	Liberal Feminism	

12.	Radical Feminism	
13.	Third World Feminism.	
14.	Postmodernism	
15.	Development of Postmodernism	
16.	Differences between Postmodernism and Modernism.	

Course –Generic Elective

Class/Semester-B.A.1st Semester

Name of the Paper- GE-1A (Nationalism in India)

Unit's Assigned- Unit-IV

Marks Assigned- 16

Class	Topic/Unit	Remarks
1.	Social Movement, Meaning, Types and character	
2.	New Social Movements.	
3.	Women's Participation in National Movement.	
4.	Caste and Anti Brahminical Politics	
5.	Peasants Movement in India	
6.	Tribal Movements	
7.	Worker's Movement	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A. 3rd Semester

Name of the Paper- C5 (Introduction to Comparative Government and Politics)

Units Assigned- Unit –V

Marks Assigned- 16

Class	Topic/ Unit	Remarks
1.	Political system of Brazil	
2.	Constitutional Development of Brazil	
3.	Salient Features of the Constitution	
4.	Political Economy of Brazil	
5.	Judiciary	
6.	Representation and Participation	
7.	Evolution of Modern Nigeria	
8.	Constitutional Development of Nigeria	
9.	Political Institution and Processes	
10.	Fundamental Principles of the Constitution	
11.	Federalism in Nigeria	
12.	Representation and Participation in Nigeria	
13.	Political Economy	
14.	China at a glance	
15.	Historical Perspective of the Chinese Constitution	
16.	Political System of China	
17.	Constitutional Development of China	
18.	Fundamental Features of the Constitution of China	
19.	Representation and Participation	
20.	Political Economy of China	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A. 3rd Semester

Name of the Paper- C7 (Perspectives on International Relations and World History)

Units Assigned- Unit-I & II

Marks Assigned- 32 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Origin and Growth of International Relations	
2.	Meaning, Nature and Scope of International Relations	
3.	Levels of analysis of International Relations	
4.	Emergence of International State System	
5.	Pre-Westphalia and Westphalia Period	
6.	Post-Westphalia Period	
	Unit-II	
7.	Realist School of thought	
8.	Classical realism	
9.	Neo-Realism	
10.	Morgenthau six principles of Realism	
11.	Structural Realism: Kenneth Waltz	
12.	Difference between classical and structural Realism	
13.	Liberal and Neo-liberal Approach	
14.	Liberalism and its Core ideas	
15.	Neo-Liberalism	
16.	Marxist Approach	
17.	Feminist Approach	
18.	Eurocentricism and perspective from Global South.	

Course Plan

Name of the Teacher- Jitu Borah

Course – Generic

Class/Semester- B.A. 3rd Semester

Name of the Paper- GE-3B (Governance: Issues and Challenges)

Units Assigned- Unit-I & V

Marks Assigned- 32 (16 per Unit)

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Concept of Government and Governance	
2.	Differences between Government and Governance	
3.	Good Governance and its Character	
4.	Role of State in the age of Globalization	
5.	Role of Civil Society in the Era of Globalization	
6.	Role of Market in the Globalized world	
	Unit-V	
7.	Good Governance initiatives in India	
8.	Public Service Guarantee Act	
9	Electronic Governance in India and its advantages & disadvantages	

10.	Citizens Charter	
11.	Right to Information	
12.	Corporate Social Responsibility	

Course Plan

Name of the Teacher- Jitu Borah

Course – Skill Enhancement Course

Class/Semester- B.A. 3rd Semester

Name of the Paper- SEC-I (Human Rights and Enforcement Mechanisms)

Units Assigned- Unit-IV

Marks Assigned- 10

Class	Topic/Unit	Remarks
1.	Regional Enforcement Mechanism of Human Rights	
2.	European Court of Human rights	
3.	American Court of Human Rights	
4.	African Court of Human Rights	
5.	Other Regional Enforcement Agencies	
6.	Minorities Commissions	
7.	UN System	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A. 5th Semester

Name of the Paper- C11 (Classical Political Philosophy)

Units Assigned- Unit- I

Marks Assigned- 16

Class	Topic/ Unit	Remarks
	Unit-I	
1.	Classical Tradition and its Characteristics	
2.	Indispensability of Interpretation	
3.	Challenges in Interpreting Classical Texts	
4.	Marxist Approach of Textual Interpretation	
5.	Totalitarian Approach of Textual Interpretation	
6.	Psychoanalytic Approach of Textual Interpretation	
7.	Feminist Approach of Textual Interpretation	
8.	Straussan Approach of Textual Interpretation	
9.	Post-Modernist Approach of Textual Interpretation	
10.	Cambridge New History Approach of Textual Interpretation	
11.	Pluralistic and Problem Driven Interpretation	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A. 5th Semester

Name of the Paper- C12 (Indian Political Thought-I)

Units Assigned- Unit- IV

Marks Assigned- 16

Class	Topic/Unit	Remarks
	Unit-IV	
1.	Aggannasutta(Digha Nikaya)	
2.	Kingship and its origin	
3.	Theories of kingship	
4.	State and its Origin	
5.	Notion of Sovereignty	
6.	Aggannasutta as an account of Social Changes	
7.	Social Classes	
8.	Views on Ideal state	
9.	Buddhist ideas on the Constituents of the State	
10.	Ideal Kingdom	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A. 5th Semester

Name of the Paper- DSC-I (Contemporary Politics in Assam)

Units Assigned- Unit- IV

Marks Assigned- 16

Class	Topic/Unit	Remarks
	Unit-IV	
1.	Overview on the Inter-state Border Dispute in NE India	
2.	Causes of Border Dispute in general	
3.	Assam Meghalaya Border Dispute	
4.	Efforts for the Settlement of the Dispute	
5.	Assam Nagaland Border Dispute :Origin and its causes	
6.	Efforts for the dispute resolution	
7.	Assam Arunachal Border Dispute	
8.	Border related issues and Debates	
9.	Efforts for the Resolution of dispute	
10.	Inter-state Conflicts in NE India	
11.	Present trends of Interstate Conflict	

Course Plan

Name of the Teacher- Jitu Borah

Course –Honours

Class/Semester- B.A. 5th Semester

Name of the Paper- DSC-II (Human Rights in a Comparative Perspective)

Units Assigned- Unit- II & V

Marks Assigned- 32 (16 per Unit)

Class	Topic/Unit	Remarks
	Unit-II	
1.	United Nation	
2.	UN Charter and Human Rights	
3.	Different organizations of UNO related with Human Rights	
4.	UN Centre for Human Rights	
5.	UN High Commissioner for Human Rights	
6.	UN High Commissioner for Refugees	
7.	Universal Declaration of Human Rights	
8.	Significance of the Universal declaration of Human Rights	
9.	International Covenant on Civil and Political Rights	
10.	International Covenant on Economic Social and Cultural Rights 1966	
11.	First Optional Protocol to the ICCPR	
12.	Second Optional Protocol to the ICCPR	

	Unit-V	
13.	Meaning of Caste and Race	
14.	Caste and India	
15.	Role of caste in Indian Politics	
16.	Racism and South Africa	
17.	Gender Violence in India	
18.	Gender Violence in Pakistan	
19.	Initiatives in International Levels	
20.	Convention on the Political Rights of Women, 1952	
21.	Convention on Nationality of Married Women, 1957	
22.	Convention on Elimination of All forms of Discrimination Against women	
23.	Women Rights in India	
24.	Aboriginals and Australia	
25.	Land Rights Of Aboriginal In Australia	
26.	Question of Land Rights in India	
27.	Causes for Loosing Land Rights of Adivasi	
28.	Steps in India for restoration of Land Rights for Adivasis	

Department of Zoology

DIGBOI COLLEGE, DIGBOI

Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honours**

Class/Semester- 1st Semester (CBCS)

Name of the Paper-CC I – **Course Code: Zc101t Core Course I: Non-Chordates I: Protists to Pseudocoelomates**

Units Assigned-Unit 2 & 5 (Porifera & Platyhelminthes)

Marks Assigned- 17 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: Porifera- General character and classification	
2.	Unit 2: Canal system in sponges	
3.	Unit 2: Canal system in sponges	
4.	Unit 2: Canal system in sponges	
5.	Unit 2: Spicules in Sponges	
6.	Unit 5- Platyhelminthes- General characteristics and Classification up to classes	
7.	Unit 5- Life Cycle and Pathogenicity of <i>Taenia solium</i>	
8.	Unit 5- Life Cycle and Pathogenicity of <i>Fasciola hepatica</i>	
Practical Class	Topic/ Unit	Remarks
1	Unit 3: Study of Sycon (T.S. and L.S.), <i>Hyalonema</i> , <i>Euplectella</i> , <i>Spongilla</i> .	
2	Unit 5: Study of adult <i>Taenia solium</i> and their life cycles (Slides/microphotographs)	
3	Unit 5: Study of adult <i>Fasciola hepatica</i> , and their life cycles (Slides/microphotographs)	

DIGBOI COLLEGE, DIGBOI

Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honours**

Class/Semester- 1st Semester (CBCS)

Name of the Paper-CC II – **Core Course II: Principles of Ecology**

Units Assigned-Unit 4 & 5 (Ecosystem & Applied Ecology)

Marks Assigned- 18 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 4: Types of ecosystems with one example in detail (Forest ecosystem)	
2.	Unit 4: Food chain & Food Web	
3.	Unit 4: Detritus and grazing food chains	
4.	Unit 4: Linear and Y-shaped food chains	
5.	Unit 4: Linear and Y-shaped food chains	
6.	Unit 4: Energy flow through the ecosystem	
7.	Unit 4: Energy flow through the ecosystem	
8.	Unit 4: Ecological pyramids	
9.	Unit 4: Ecological efficiencies	
10.	Unit 5: Concept of wildlife conservation (Usefulness, causes and consequences of degradation)	
11.	Unit 5: Management strategies	
Practical Class	Topic/ Unit	Remarks
1	Unit 2: Determination of population density in a natural/hypothetical community by quadrat method and calculation of Shannon-Weiner diversity index for the same community	
2	Unit 2: Determination of population density in a natural/hypothetical community by quadrat method and calculation of Shannon-Weiner diversity index for the same community	
3	Unit 2: Determination of population density in a natural/hypothetical community by quadrat method and calculation of Shannon-Weiner diversity index for the same community	
4	Unit 4: Report on a visit to National Park/Biodiversity Park/Wild life sanctuary/Reserved forest	

DIGBOI COLLEGE, DIGBOI

Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Generic**

Class/Semester- 1st Semester (CBCS)

Name of the Paper-CC II – **GE II: Animal Diversity**

Units Assigned-Unit 2, 4 & 5 (Porifera, Aceolomates, Arthropoda)

Marks Assigned- 10 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: General Characters of Porifera	
2.	Unit 2: Canal system of Porifera	
3.	Unit 2: Canal system of Porifera	
4.	Unit 2: Canal system of Porifera	
5.	Unit 4: General Characters of Hemintnes	
6.	Unit 4: Life Cycle of <i>Taenia solium</i>	
7.	Unit 7: General Characters of Arthropoda	
8.	Unit 7: General Characters of Arthropoda	
9.	Unit 7: Social Life in Insects	
10.	Unit 7: Social Life in Insects	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: <i>Sycon</i> , <i>Taenia</i> , <i>Peripatus</i> , <i>Limulus</i> , Hermit crab, Daphnia, Millipede, Centipede, Beetle	
2	Unit 2: Dissections of Digestive system of Cockroach	
3	Unit 2: Dissections of nervous system of Cockroach	

DIGBOI COLLEGE, DIGBOI

Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honours**

Class/Semester- 2nd Semester (CBCS)

Name of the Paper-CC III – **CCIII – Non-chordates II: Coelomates**

Units Assigned-Unit 3 (Arthropoda)

Marks Assigned- 20 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 3: General Characters of Arthropoda	
2.	Unit 3: Classification of Arthropoda	
3.	Unit 3: Classification of Arthropoda	
4.	Unit 3: Classification of Arthropoda	
5.	Unit 3: Vision in Arthropoda	
6.	Unit 3: Respiration in Arthropoda	
7.	Unit 3: Metamorphosis in Insects	
8.	Unit 3: Social Life in Bees	
9.	Unit 3: Social Life in termites	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Study of specimens of Arthropoda	
2	Unit 4: Dissections of Digestive system of <i>Periplaneta</i>	
3	Unit 4: Dissections of nervous system of <i>Periplaneta</i>	
4	Unit 4: Mouth parts mounting of various insects	

DIGBOI COLLEGE, DIGBOI

Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honours**

Class/Semester- 2nd Semester (CBCS)

Name of the Paper-CC III – **CCIV – Cell Biology**

Units Assigned-Unit 2 & 3 (Plasma membrane and Endoplasmic Reticulum)

Marks Assigned- 20 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: Plasma membrane various model	
2.	Unit 2: Structure of Plasma membrane	
3.	Unit 2: Membrane transports (Active, Passive, Facilitated transport)	
4.	Unit 2: Cell Junctions & Tight Junctions	
5.	Unit 2: Desmosomes and Gap Junction	
6.	Unit 3: Structure of Endoplasmic Reticulum	
7.	Unit 3: Function of Endoplasmic Reticulum	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Preparation of temporary stained of onion root tip to study various stages of mitosis	
2	Unit 2: Study of various stages of meiosis	

DIGBOI COLLEGE, DIGBOI

Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Generic**

Class/Semester- 2nd Semester (CBCS)

Name of the Paper- **CCII-GE-VIII INSECT VECTORS AND DISEASES**

Units Assigned-Unit 1, 3 & 6 (Introduction Insects, Insects as vectors, Hemiptera as vectors)

Marks Assigned- 18 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Introduction to insects: General Characters	
2.	Unit 1: Morphological features, Head,	
3.	Unit 1: Insect eyes, types of antennae	
4.	Unit 1: Mouth parts of insects & feeding Habits	
5.	Unit 3: Classification of Insects	
6.	Unit 3: Classification of insects	
7.	Unit 3: Detailed features of orders with insects as vectors – Diptera, Siphonaptera, Siphunculata, Hemiptera	
8.	Unit 3: Detailed features of orders with insects as vectors – Diptera, Siphonaptera, Siphunculata, Hemiptera	
9.	Unit 7: Hemiptera as Disease Vectors: Bugs as insect vectors	
10.	Unit 7: Blood-sucking bugs; Chagas disease, Bed bugs as mechanical vectors Control and prevention measures	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Study of different kinds of mouth parts of insects.	
2	Unit 2: Submission of a project report on any one of the insect vectors and disease transmitted.	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honours**

Class/Semester- 3rd Semester (CBCS)

Name of the Paper- **CCV-Diversity of Chordata**

Units Assigned-Unit 4, 5 & 7 (Agnatha, Pisces and Reptilia)

Marks Assigned- 17 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 4: General Characteristics and Classification of Cyclostomata up to class	
2.	Unit 5: General characters of Chondrichthyes and its classification	
3.	Unit 5: General characters of Osteichthyes and its classification	
4.	Unit 5: Fish Migration	
5.	Unit 5: Osmoregulation in fishes	
6.	Unit 5: Parental care in fishes	
7.	Unit 7: General characters and classification up to order of Reptiles	
8.	Unit 7: Affinities of sphenodon	
9.	Unit 7: Poison apparatus in snakes	
10.	Unit 7: Biting mechanism in snakes	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Identification of reptilian specimens.	
2	Unit 2: Key for identification of poisonous and non-venomous snakes	

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DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honours**

Class/Semester- 3rd Semester (CBCS)

Name of the Paper- **CCVI-Animal Physiology: Controlling and Coordinating Systems**

Units Assigned-Unit 6 (Endocrinology)

Marks Assigned- 18 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 6: Histology of endocrine glands	
2.	Unit 6: Hormones secreted by Pineal, Pituitary Glands	
3.	Unit 6: Hormones secreted by Thyroid Gland and Parathyroid glands	
4.	Unit 6: Hormones secreted by Pancreatic Gland	
5.	Unit 6: Hormones secreted by Adrenal Glands	
6.	Unit 6: Mechanism of actions of hormones	
7.	Unit 6: Classification of Hormones and regulation of their secretion	
8.	Unit 6: Signal transduction pathways for steroidal and non-steroidal hormones	
9.	Unit 6: Hypothalamus (Neuroendocrine glands)	
10.	Unit 6: Principal nuclei involved in neuroendocrine control of anterior pituitary and endocrine system	
11.	Unit 6: Placental hormones	
Practical Class	Topic/ Unit	Remarks
1	Unit 4: Study of permanent slides of Pituitary, Pancreas, Testis, Ovary, Thyroid and Parathyroid.	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honours**

Class/Semester- 3rd Semester (CBCS)

Name of the Paper- **CCVII-Fundamentals of Biochemistry**

Units Assigned-Unit 4 (Nucleic Acids)

Marks Assigned- 12 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 4: Structure of Purines and Pyrimidine,	
2.	Unit 4: Nucleosides, Nucleotides, Nucleic Acid	
3.	Unit 4: Cot curves	
4.	Unit 4: Base pairing	
5.	Unit 4: Denaturation and Renaturation	
6.	Unit 4: Types of DNA	
7.	Unit 4: Types of RNA	
8.	Unit 4: Complementarity of DNA	
9.	Unit 4: Hypo-hyperchromaticity of DNA	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Qualitative tests of functional groups in carbohydrates.	

DIGBOI COLLEGE, DIGBOI

Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Generic**

Class/Semester- 3rd Semester (CBCS)

Name of the Paper- **GE VIII-Human Physiology**

Units Assigned-Unit 1 & 6 (Digestion & Absorption of Food and Endocrinology and Reproductive Physiology)

Marks Assigned- 19 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Structure and function of digestive glands,	
2.	Unit 1: Digestion and absorption of carbohydrates	
3.	Unit 1: Digestion and absorption of fats	
4.	Unit 1: Digestion and absorption of proteins	
5.	Unit 1: Nervous and hormonal control of digestion	
6.	Unit 6: Structure and function of Pituitary Gland	
7.	Unit 6: Structure and function of Pituitary Gland	
8.	Unit 6: Structure and function of thyroid and parathyroid glands	
9.	Unit 6: Structure and function of pancreases Gland	
10.	Unit 6: Structure and function of adrenal Gland	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: study of permanent sections of mammalian oesophagus, stomach, duodenum, rectum, lung, kidney, thyroid, pancreas, adrenal, testis, ovary.	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honour**

Class/Semester- 4th Semester (CBCS)

Name of the Paper- **CC VIII Comparative Anatomy of Vertebrate**

Units Assigned-Unit 2 & 3 (Skeletal system and digestive system)

Marks Assigned- 16 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: Overview of axial and appendicular skeleton	
2.	Unit 2: Overview of axial and appendicular skeleton	
3.	Unit 2: Overview of axial and appendicular skeleton	
4.	Unit 2: Jaw Suspenorium	
5.	Unit 2: Visceral arches	
6.	Unit 3: Alimentary canal	
7.	Unit 3: associate glands of alimentary canal	
8.	Unit 3: Dentition	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Study of placoid, cycloid and ctenoid scales through permanent slides/photographs.	
2	Unit 3: Mammalian skulls: One herbivorous and one carnivorous animal	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honour**

Class/Semester- 4th Semester (CBCS)

Name of the Paper- **CC IX Animal Physiology: Life Sustaining Systems**

Units Assigned-Unit 1 & 3 (Physiology of Digestion and Renal Physiology)

Marks Assigned- 22 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Structural organization and functions of gastrointestinal tract and associated glands	
2.	Unit 1: Structural organization and functions of gastrointestinal tract and associated glands	
3.	Unit 1: Mechanical and chemical digestion of food	
4.	Unit 1: Absorptions of carbohydrates, lipids, proteins, water, minerals and vitamins	
5.	Unit 1: Hormonal control of secretion of enzymes in Gastrointestinal tract.	
6.	Unit 3: Structure of kidney and its functional unit	
7.	Unit 3: Mechanism of urine formation	
8.	Unit 3: Regulation of water balance	
9.	Unit 3: Regulation of acid-base balance	
Practical Class	Topic/ Unit	Remarks
1	Unit 4: Preparation of haemin and haemochromogen crystals.	
2	Unit 4: Examination of sections of mammalian oesophagus, stomach, duodenum, ileum, rectum liver, trachea, lung, kidney	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honour**

Class/Semester- 4th Semester (CBCS)

Name of the Paper- **CC X Biochemistry of metabolic processes**

Units Assigned-Unit 2 (Carbohydrate metabolism)

Marks Assigned- 16 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: Sequence of reactions and pathways of glycolysis.	
2.	Unit 2: Sequence of reactions and pathways of citric acid cycle	
3.	Unit 2: Sequence of reactions and pathways of Phosphate pentose pathway	
4.	Unit 2: Gluconeogenesis, Glycogenolysis and Glycogenesis.	
5.	Unit 2: Gluconeogenesis, Glycogenolysis and Glycogenesis.	
Practical Class	Topic/ Unit	Remarks
1	Unit 3: To study the enzymatic activity of Trypsin and Lipase	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Generic**

Class/Semester- 4th Semester (CBCS)

Name of the Paper- **GE IV Environment and Public Health**

Units Assigned-Unit 4 (Waste Management Technologies)

Marks Assigned- 18 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 4: Sources of waste, types and characteristics,.	
2.	Unit 4: Sewage disposal and its management	
3.	Unit 4: Solid waste disposal	
4.	Unit 4: Biomedical waste handling and disposal.	
5.	Unit 4: Nuclear waste handling and disposal.	
6.	Unit 4: Case histories on Bhopal gas tragedy, Chernobyl disaster, Seveso disaster and Three Mile Island accident and their aftermath.	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: To determine pH, Cl, SO ₄ , NO ₃ in soil and water samples from different locations	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honour**

Class/Semester- 5th Semester (CBCS)

Name of the Paper- **CC XI Molecular Biology**

Units Assigned-Unit 1 & 5 (Nucleic Acids and Post Transcriptional Modifications and Processing of Eukaryotic RNA)

Marks Assigned- 10 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Salient features of DNA and RNA	
2.	Unit 1: Watson and Crick model of DNA	
3.	Unit 5: Structure of globin mRNA	
4.	Unit 5: Split genes: concept of introns and exons	
5.	Unit 5: Splicing mechanism	
6.	Unit 5: Alternative splicing	
7.	Unit 5: Exon shuffling, and RNA editing	
8.	Unit 5: Processing of tRNA	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Study of Polytene chromosomes from Chironomous / Drosophila larvae	
2	Unit 2: Study and interpretation of electron micrographs/ photograph showing (a) DNA replication (b) Transcription (c) Split genes	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honour**

Class/Semester- 5th Semester (CBCS)

Name of the Paper- **CC XII PRINCIPLES OF GENETICS THEORY**

Units Assigned-Unit 3 & 6 (Mutation and Polygenic Inheritance)

Marks Assigned- 13 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 3: Types of gene mutations (Classification)	
2.	Unit 3: Types of chromosomal aberrations (Classification, figures and with one suitable example of each)	
3.	Unit 3: Molecular basis of mutations in relation to UV light and chemical mutagens	
4.	Unit 3: Molecular basis of mutations in relation to UV light and chemical mutagens	
5.	Unit 3: Detection of mutations: CLB method, attached X method.	
6.	Unit 3: Detection of mutations: CLB method, attached X method.	
7.	Unit 6: Exon shuffling, and RNA editing	
8.	Unit 6: Polygenic inheritance with suitable examples	
9.	Unit 6: Polygenic inheritance with suitable examples	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Pedigree analysis of some human inherited traits	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honour**

Class/Semester- 5th Semester (CBCS)

Name of the Paper- **DSE Course III: ENDOCRINOLOGY**

Units Assigned- Unit 2: Epiphysis, Hypothalamo-hypophysial Axis

Marks Assigned- 13 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: Structure of hypothalamus	
2.	Unit 2: Hypothalamic nuclei and their functions	
3.	Unit 2: Regulation of neuroendocrine glands	
4.	Unit 2: Feedback mechanisms	
5.	Unit 2: Structure of pituitary gland	
6.	Unit 2: Functions of Pituitary Glands	
7.	Unit 2: Hormones and Functions of Pituitary Glands	
8.	Unit 2: Hypothalamo- hypophysial portal system,	
Practical Class	Topic/ Unit	Remarks
1	Unit 1 : Study of the permanent slides of all the endocrine glands	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Honour**

Class/Semester- 5th Semester (CBCS)

Name of the Paper- **DSE Course IV: BIOLOGY OF INSECTA**

Units Assigned- Unit 2 & 3: Insect Taxonomy and General Morphology of Insects

Marks Assigned- 12 /53

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: Basis of insect classification	
2.	Unit 2: Classification of insects up to orders	
3.	Unit 2: Classification of insects up to orders	
4.	Unit 2: Classification of insects up to orders	
5.	Unit 2: Classification of insects up to orders	
6.	Unit 3: External Features; Head	
7.	Unit 3: Insect Eyes	
8.	Unit 3: Types of antennae	
9	Unit 3: Mouth parts w.r.t. feeding habits	
10.	Unit 3: Types of Legs adapted to diverse habitat	
11.	Unit 3: Thorax: Wings and wing articulation	
12.	Unit 3: Abdominal appendages	
13.	Unit 3: Genitalia	
Practical Class	Topic/ Unit	Remarks
1	Unit 1. Study of one specimen from each insect order	
2	Unit 2. Study of different kinds of antennae, legs and mouth parts of insects	
3	Unit 3. Study of head and sclerites of any one insect	
4	Unit 4. Study of insect wings and their venation. 5. Prepare permanent slide of insect spiracles	
5	Unit 5. Prepare permanent slide of insect spiracles	
6	Unit 6. Methodology of collection, preservation and identification of insects.	
7	Unit 7. Morphological studies of various castes of <i>Apis</i> , and <i>Odontotermes</i>	
8	Unit 8. Study of any three insect pests and their damages	
9	Unit 9. Study of any three beneficial insects and their products	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 4th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 401: Cell Biology, Histology & Histochemistry**

Units Assigned- Unit 2 & 5 : Plasma Membrane, Histology of Muscles

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Structure and functions of plasma membrane (lipid bilayer model)	
2.	Unit 1: Structure of Endoplasmic Reticulum	
3.	Unit 1: Function of Endoplasmic Reticulum	
4.	Unit 1: Structure of Golgi Bodies	
5.	Unit 1: Structure of Golgi Bodies	
6.	Unit 5: Histological structure of muscles	
7.	Unit 5: Animal tissues- types	
8.	Unit 5: functions lung, stomach, intestine & liver.	
Practical Class	Topic/ Unit	Remarks
1	Unit 1. Study of Mitosis in tadpole & onion root tip	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 4th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 403: Developmental Biology**

Units Assigned- Unit 4 & 5 : Organogenesis Embryonic membrane and placentation

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 4: Organogenesis – development of sense organs-Ears	
2.	Unit 4: Organogenesis – development of sense organs-Ears	
3.	Unit 5: Extra Embryonic Membrane in Birds	
4.	Unit 5: Placentation in Mammals	
5.	Unit 5: Placentation in Mammals	
Practical Class	Topic/ Unit	Remarks
1	Unit 1. Study of permanent slides of developmental stages in chick embryo	
2	Unit 5. Submission of permanent stained preparation of (at least two stages up to 72 hrs. development stages) chick embryo	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Pass Course**

Class/Semester- 4th Semester (**Non-CBCS**)

Name of the Paper- **Zoo GT- 401: Animal Physiology & Endocrinology**

Units Assigned- Unit 1, 4 & 5 : Digestion, Pituitary & Pancreas

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Digestion and absorption of carbohydrate	
2.	Unit 1: Digestion and absorption of carbohydrate	
3.	Unit 4: Anatomy of pituitary & pancreas gland	
4.	Unit 4: Neuroendocrine system in insects	
5.	Unit 4: Neuroendocrine system in insects	
6.	Unit 5: Function of pituitary gland	
7.	Unit 5: Function of pituitary gland	
8.	Unit 5: Function of Pancreases Gland	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Preparation of haemin crystals	
2	Unit 5: Study of histological slides of endocrine glands	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 5th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 501: Genetics and Evolution**

Units Assigned- Unit 4 & 5 : Evolution

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 4: Evidences and theories of evolution	
2.	Unit 4: Palaeo-biological	
3.	Unit 4: Molecular evidences	
4.	Unit 4: Lamarckism	
5.	Unit 4: Darwinism, Neo Darwinism	
6.	Unit 4: Mutation theory and Modern Synthetic theory	
7.	Unit 4: Origin of life (chemical and biological origin)	
8.	Unit 4: Variation- types and sources	
9.	Unit 4: Isolation; speciation (sympatric, allopatric and peripatric)	
10.	Unit 4: Fossil and fossilization	
11.	Unit 5: Concept of population	
12.	Unit 5: Gene pool	
13.	Unit 5: Gene frequency (Hardy- Weinberg law).	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Polytene chromosome of chironomus larvae	
2	Unit 1: Polytene chromosome of Drosophila larvae	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 5th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 503: Animal Physiology**

Units Assigned- Unit 2 & 3 : Digestion and Excretion

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: Digestion- site and sequence of digestion	
2.	Unit 2: Digestive secretions and their regulation	
3.	Unit 2: Mechanism of digestion	
4.	Unit 2: Absorption of Carbohydrates	
5.	Unit 2: Absorption of Fats	
6.	Unit 2: Absorption of Protein	
7.	Unit 2: Role of gastro-intestinal hormones	
8.	Unit 2: Balanced diet	
9.	Unit 3: Excretion- structure and functions of nephron	
10.	Unit 3: Excretion- structure and functions of nephron	
11.	Unit 3: Renal blood supply	
12.	Unit 3: Mechanism and regulation of urine formation	
13.	Unit 3: Renal failure and dialysis	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Preparation of Haemin crystals	
2	Unit 2: Demonstration of osmosis using toad/frog urinary, bladder/alimentary canal	

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DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 5th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 505: Environmental Biology and Wildlife**

Units Assigned- Unit 3 & 5 : Remote sensing & EIA; IUCN, Endangered species of NE, Conservation, IWPA, 1972

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 3: Basic concept of remote sensing	
2.	Unit 3: EIA	
3.	Unit 5: IUCN status of species category	
4.	Unit 5: endangered species: rhinoceros, tiger, golden langur	
5.	Unit 5: endangered species: dancing deer, river dolphin	
6.	Unit 5: endangered species: pigmy hog, white winged wood duck	
7.	Unit 5: endangered species: golden mahseer (<i>Tor spp.</i>)	
8.	Unit 5: threats to biodiversity	
9.	Unit 5: man-wildlife conflict	
10.	Unit 5: <i>ex-situ</i> and <i>insitu</i> conservation strategies	
11.	Unit 5: <i>ex-situ</i> and <i>insitu</i> conservation strategies	
12.	Unit 5: major national parks of NE India	
13.	Unit 5: concept of biosphere reserve and biodiversity hot spot	
14.	Unit 5: Indian Wildlife Protection Act, 1972.	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Estimation of the size of the population by capture-recapture method (any vertebrate/invertebrate).	
2	Unit 1: Estimation of the size of the population by capture-recapture method (any vertebrate/invertebrate).	

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Course Plan

DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **General (Pass Course)**

Class/Semester- 5th Semester (**Non-CBCS**)

Name of the Paper- **Zoo GT- 501: Genetics and Molecular Biology**

Units Assigned- Unit 3 & 4 : Nucleic Acids, transcription & Translation

Marks Assigned- 10 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 3: Nucleic acids	
2.	Unit 3: DNA as genetic material	
3.	Unit 3: DNA as genetic material	
4.	Unit 3: Structure of DNA	
5.	Unit 3: Function of DNA	
6.	Unit 3: Structure of RNA	
7.	Unit 3: Function of RNA	
8.	Unit 4: Basic steps of transcription	
9.	Unit 4: Basic steps of translation	
Practical Class	Topic/ Unit	Remarks
1	Unit 1 Preparation of slides for study of mitosis using suitable materials	
2	Unit 1 Preparation of slides for study of meiosis using suitable materials	

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DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 6th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 601: Parasitology and Ethology**

Units Assigned- Unit 1, 2 3 & 4 : *Giardia* sp., *Wucherera* sp., Vectors of diseases & social behaviour

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Life history, mode of infection and pathogenicity of <i>Giardia intestinalis</i>	
2.	Unit 1: Life history, mode of infection and pathogenicity of <i>Giardia intestinalis</i>	
3.	Unit 2: life history, parasitic adaptation and pathogenicity of <i>Wuchereria bancrofti</i>	
4.	Unit 2: life history, parasitic adaptation and pathogenicity of <i>Wuchereria bancrofti</i>	
5.	Unit 3: : Vectors of human diseases- Yellow fever	
6.	Unit 3: : Vectors of human diseases- dengue fever	
7.	Unit 3: : Vectors of human diseases- haemorrhagic fever	
8.	Unit 3: : Vectors of human diseases- filariasis infection	
9.	Unit 3: : Vectors of human diseases- Japanese B-encephalitis fever	
10.	Unit 3: : measures of control of the vectors	
11.	Unit 5: <i>ex-situ</i> and <i>insitu</i> conservation strategies	
12.	Unit 5: Social behavior in insects	
13.	Unit 5: Social behavior in insects	
Practical Class	Topic/ Unit	Remarks
1	Unit 1: Identification of mosquito species causing malaria, encephalitis and dengue fever	
2	Unit 1 : Identification of mosquito species causing malaria, encephalitis and dengue fever	

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DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 6th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 603: Molecular Biology and Immunology**

Units Assigned- Unit 1, & 5 : Genome and AIDS

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Genome organization in prokaryotes	
2.	Unit 1: Genome organization in eukaryotes	
3.	Unit 1: DNA as genetic material	
4.	Unit 1: DNA as genetic material	
5.	Unit 1: structure and functions of DNA	
6.	Unit 1: structure and functions of RNA	
7.	Unit 1: Watson & Crick Model of DNA	
8.	Unit 1: Other forms of DNA (A & Z).	
9.	Unit 5: AIDS	
Practical Class	Topic/ Unit	Remarks
NA	NA	NA

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DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 6th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 604: Biotechnology and Bioinformatics**

Units Assigned- Unit 1, & 3 : Industrial Biotechnology

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Industrial biotechnology with special reference to production of alcohol	
2.	Unit 1 Industrial biotechnology with special reference to production of antibiotics	
3.	Unit 3: Regulation of biotechnology	
4.	Unit 3: production and application of transgenic animals	
5.	Unit 3: production and application of transgenic plants	
6.	Unit 3: Genetically modified Organism	
7.	Unit 3: GMO benefits and risk assessment	
8.	Unit 3: IPR	
9.	Unit 3: patents and ethical issues related to biotechnology.	
Practical Class	Topic/ Unit	Remarks
1	Determination of blood group and Rh factor	
2	Immunodiffusion / Blood grouping (Ag-Ab reaction)	

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DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **Major**

Class/Semester- 6th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 606: Economic Zoology**

Units Assigned- Unit 1 : Insect Pests

Marks Assigned- 13 /48

Theory Class	Topic/ Unit	Remarks
1.	Unit 1: Major insect pests of paddy	
2.	Unit 1: Major insect pests of tea	
3.	Unit 1: Major insect pests of store grained and their biology	
4.	Unit 1: Pest management- chemical	
5.	Unit 1 : Pest management- cultural	
6.	Unit 1 : Pest management- Biological	
7.	Unit 1 : Pest management- cultural	
8.	Unit 1: integrated pest management	
Practical Class	Topic/ Unit	Remarks
1	Unit 2: Submission of life cycles of eri/ muga/ mulberry silkworms.	
2	Unit 3: Study of important pests of paddy, tea plants and stored grains and their submission	

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DEPARTMENT: ZOOLOGY

Name of the Teacher- Rajib Rudra Tariang

Course – **General**

Class/Semester- 6th Semester (**Non-CBCS**)

Name of the Paper- **Zoo MT- 601: Animal Ecology and Biostatistics**

Units Assigned- Unit 2 and 4 : Basic concept of Food Chain and its related and concepts of endangered fauna

Marks Assigned- 10 /48

Unit-2: Food chain and energy flow, food web

Theory Class	Topic/ Unit	Remarks
1.	Unit 2: Food chain, food web	
2.	Unit 2: Energy flow	
3.	Unit 4: Basic concept of wildlife and Protected Areas of Assam	
4.	Unit 4: Basic concept of wildlife and Protected Areas of Assam	
5.	Unit 4: Endangered fauna of NE India and their conservation	
6.	Unit 4: Endangered fauna of NE India and their conservation	
Practical Class	Topic/ Unit	Remarks
1	Unit 2: Find out the biotic components of a grassland/pond ecosystem and make probable food chain and food web	
2	Unit 2: Study of man-made ecosystems (biotic and abiotic components)	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- Ist Semester (CBCS)

Name of the Paper-CC I – Non-Chordates I

Units Assigned-Unit 6

Marks Assigned- 9 /53

Class	Topic/ Unit	Remarks
1.	Unit 6: Nemathelminthes- Gen character and classification	
2.	Unit 6: <i>Ascaris lumbricoides</i> - life cycle	
3.	Unit 6: <i>Ascaris</i> pathogenicity, <i>Wuchereria bancrofti</i>	
4.	Unit 6- Life cycle of <i>W. bancrofti</i> , pathogenicity	
5.	Unit 6- Parasitic adaptation in helminthes	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- Ist Semester (CBCS)

Name of the Paper-CC II – Principles of Ecology

Units Assigned-Unit 3

Marks Assigned- 10 /53

Class	Topic/ Unit	Remarks
1.	Unit 4: Community-characteristics –species richness, dominance	
2.	Unit 4: Species diversity, abundance, vertical stratification	
3.	Unit 4: Ecotone , Edge effect	
4.	Unit 4: Edge effect, Ecological succession –types, hydrosere	
5.	Unit 4: Theories of climax community	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- II Semester (CBCS)

Name of the Paper-CC III – Non- Chordates II

Units Assigned-Unit 5

Marks Assigned- 9 /53

Class	Topic/ Unit	Remarks
1.	Unit 5: Mollusca-Gen character and classification	
2.	Unit 5: Respiration in mollusca	
3.	Unit 5:Torsion -detorsion	
4.	Unit 5: Torsion -detorsion	
5.	Unit 5: Pearl formation	
6.	Unit 5: Evolutionary significance of Trochophore larva	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – Honours

Class/Semester- II Semester (CBCS)

Name of the Paper-CC IV – Cell Biology

Units Assigned-Unit 6 & Unit 8

Marks Assigned- 16 /53

Class	Topic/ Unit	Remarks
1.	Unit 6: Nucleus- structure , envelope, pore complex	
2.	Unit 6: Pore complex, Nucleolus, chromatin	
3.	Unit 6: Chromatin- euchromatin and heterochromatin	
4.	Unit 6: Packaging - Nucleosome	
5.	Unit 8: Cell Signaling- Receptors- GPCR	
6.	Unit 8: GPCR	
7.	Unit 8: Second messenger- cAMP	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- III Semester (CBCS)

Name of the Paper-CC V – Diversity of Chordata

Units Assigned-Unit 6 & Unit 9

Marks Assigned- 18 /53

Class	Topic/ Unit	Remarks
1.	Unit 6: Amphibia- Origin of Tetrapoda	
2.	Unit 6: -Gen character and classification	
3.	Unit 6: Parental care	
4.	Unit 6: Parental care	
5.	Unit 9: Mammals- General character and classification	
6.	Unit 9: Affinities of Prototheria-	
7.	Unit 9: Adaptive radiation of locomotory appendages	
8.	Unit 9: Adaptive radiation of locomotory appendages	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- III Semester (CBCS)

Name of the Paper-CC VI – Animal Physiology

Units Assigned-Unit 2 & Unit 3

Marks Assigned- 16 /53

Class	Topic/ Unit	Remarks
1.	Unit 2: Bone and Cartilage- structure of bones	
2.	Unit 2: Types of bones , Cartilage structure and types	
3.	Unit 2: Ossification, bone growth and resorption	
4.	Unit 3: Nervous system-structure of neuron, Action potential propagation	
5.	Unit 3: Myelinated and non-myelinated nerves and impulse propagation	
6.	Unit 3: Synapse and transmission of impulse	
7.	Unit 3: Neuromuscular junction, reflex action	
8.	Unit 3: Physiology of Hearing- anatomy of ear	
9.	Unit 3: Hearing mechanism	
10.	Unit 3: Vision- Eye structure – image formation	
11.	Unit 3: Physiology of vision – eye problems	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- III Semester (CBCS)

Name of the Paper-CC VII – Fundamentals of Biochemistry

Units Assigned- Unit 3: Proteins

Marks Assigned- 12 /53

Class	Topic/ Unit	Remarks
1.	Unit 3: Proteins- Amino acid structure, classification,	
2.	Unit 3: General properties of amino acids, Physiological importance	
3.	Unit 3: Essential –non essential amino acids	
4.	Unit 3: Proteins- bonds stabilizing protein structure	
5.	Unit 3: Levels of organization of proteins	
6.	Unit 3: Denaturation, Simple and conjugated proteins, Immunoglobulins	
7.	Unit 3: Structure of Ig, classes, function , antigenic determinants	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- IV Semester (CBCS)

Name of the Paper-CC VIII – Comparative anatomy of Vertebrates

Units Assigned- Unit 1 and Unit 4

Marks Assigned- 15 /53

Class	Topic/ Unit	Remarks
1.	Unit 1: Integumentary system – structure, function, derivatives	
2.	Unit 1: Integumentary derivatives	
3.	Unit 4: Respiratory system- skin, gills	
4.	Unit 4: Lungs and air sacs, accessory respiratory organs	
5.	Unit 4: Accessory respiratory organs	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- IV Semester (CBCS)

Name of the Paper-CC IX – Animal Physiology- Life sustaining system

Units Assigned- Unit 2

Marks Assigned- 12 /53

Class	Topic/ Unit	Remarks
1.	Unit 2: Physiology of Respiration – Histology of Trachea and Lungs	
2.	Unit 2: Mechanism- pulmonary ventilation, Respiratory volumes	
3.	Unit2: Respiratory capacity; Transport of oxygen	
4.	Unit 2: Transport of CO_2 , Respiratory pigments	
5.	Unit 2:Dissociation curves, Carbon monoxide poisoning	
6.	Unit 2: Control of Respiration	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- IV Semester (CBCS)

Name of the Paper-CC X – Biochemistry of Metabolic processes

Units Assigned- Unit 1 and Unit 5

Marks Assigned- 12 /53

Class	Topic/ Unit	Remarks
1.	Unit 1: Overview of Metabolism- Shuttle systems and Membrane transporters	
2.	Unit 1: Shuttle systems and Membrane transporters	
3.	Unit 1: ATP as energy currency	
4.	Unit 5: Oxidative Phosphorylation Redox system ; Mitochondrial respiratory system	
5.	Unit 5: Mitochondrial respiratory system	
6.	Unit 5: Inhibitors and uncouplers of Electron Transport System	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- V Semester (CBCS)

Name of the Paper-CC XI – Molecular Biology

Units Assigned- Unit 2 and Unit 5

Marks Assigned- 16 /53

Class	Topic/ Unit	Remarks
1.	Unit 2: DNA replication – Prokaryotic DNA replication-	
2.	Unit 2: Eukaryotic DNA replication; Mechanisms	
3.	Unit 2: Mechanism-	
4.	Unit2: RNA priming; Circular DNA replication	
5.	Unit 2: Linear ds- DNA replication	
6.	Unit 3: Transcription RNA polymerase, Transcription unit, Transcription factors	
7.	Unit 3: Mechanism of Transcription in Prokaryotes	
8.	Unit 3: Mechanism of Transcription in Eukaryotes	
9.	Unit 3: Mechanism of Transcription in Eukaryotes, synthesis of r-RNA	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- V Semester (CBCS)

Name of the Paper-CC XII – Principles of Genetics

Units Assigned- Unit 1 and Unit 5

Marks Assigned- 16 /53

Class	Topic/ Unit	Remarks
1.	Unit 1: Mendelian Genetics and Extension Principles of Inheritance, Incomplete dominance, Co-dominance	
2.	Unit 1: Multiple & lethal alleles, Epistasis	
3.	Unit 1: Sex linked inheritance	
4.	Unit 1: Sex limited and influenced inheritance	
5.	Unit 5: Extra-chromosomal Inheritance Criteria, Antibiotic resistance in <i>Chlamydomonas</i>	
6.	Unit 5: Mitochondrial mutations in yeast, Maternal influence and infective heredity in <i>Paramecium</i>	
7.	Unit 5: Maternal influence and infective heredity in <i>Paramecium</i>	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- V Semester (CBCS)

Name of the Paper – **DSE I** - Biology of Insecta

Units Assigned- Unit 4 and Unit 5

Marks Assigned- 10/53

Class	Topic/ Unit	Remarks
1.	Unit 4: Insect Society Social insects and their life	
2.	Unit 4: Social organization and behaviour	
3.	Unit 4: Social behaviour in insect	
4.	Unit 5: Theory of Co-evolution, Allelochemicals	
5.	Unit 5: Allelochemicals and host plant mediation, host plant selection	
6.	Unit 5: Host plant selection by phytophagous insects,	
7.	Unit 5: Insects as pests	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Honours**

Class/Semester- V Semester (CBCS)

Name of the Paper – **DSE II** - Endocrinology

Units Assigned- Unit 3

Marks Assigned- 10/53

Class	Topic/ Unit	Remarks
1.	Unit 3:Peripheral Endocrine Glands – Structure, hormones , functions and regulation of Thyroid gland	
2.	Unit 3: Regulation of Thyroid gland, Parathyroid gland	
3.	Unit 3: Adrenal gland	
4.	Unit 3: Pancreas	
5.	Unit 3: : Pancreas, Ovary	
6.	Unit 3: : Ovary, Testis	
7.	Unit 3: Testis	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **GENERIC**

Class/Semester- 1st Semester (CBCS)

Name of the Paper- Animal Diversity

Units Assigned- Unit 8, Unit 12, Unit 14 and Unit 15

Marks Assigned- 20 /53

Class	Topic/ Unit	Remarks
1.	Unit 8: Mollusca- General characters, Pearl formation	
2.	Unit 8: Pearl formation	
3.	Unit 12:Amphibia- General characters, terrestrial adaptations	
4.	Unit12 : Parental care	
5.	Unit 12: Parental care	
6.	Unit 14 : Aves – Origin of birds	
7.	Unit 14 : Origin of birds, Flight adaptaions	
8.	Unit 14: Flight adaptaions	
9.	Unit 15: Mammalia- Early evolution	
10.	Unit 15: Mammalia- primates, Dentition	
11.	Unit 15: Mammalia- Dentition im Mammals	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **GENERIC**

Class/Semester- 2nd Semester (CBCS)

Name of the Paper- Insect vectors and Diseases

Units Assigned- Unit 2, Unit 4

Marks Assigned- 12 /53

Class	Topic/ Unit	Remarks
1.	Unit 2: Concept of Vectors- Carrier and Vectors, Reservoirs	
2.	Unit 2: Host- vector relationship , vectorial capacity	
3.	Unit 2: Adaptations as vectors, host specificity	
4.	Unit 4: Siphonapera as disease vectors	
5.	Unit 4 Siphonapera as disease vectors	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **GENERIC**

Class/Semester- 3rd Semester (CBCS)

Name of the Paper- Human physiology

Units Assigned- Unit 2

Marks Assigned- 10 /53

Class	Topic/ Unit	Remarks
1.	Unit 2: Functioning of Excitable tissues (Nerve and Muscle)- Neuron	
2.	Unit 2: Propagation of nerve impulse	
3.	Unit 2: Propagation of nerve impulse	
4.	Unit 2: Structure of muscle cell	
5.	Unit 2: Mechanism of muscle contraction, Neuro-muscular junction	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **GENERIC**

Class/Semester- 4th Semester (**CBCS**)

Name of the Paper- Environment and Public Health

Units Assigned- Unit 2

Marks Assigned- 10 /53

Class	Topic/ Unit	Remarks
1.	Unit 2: Climate Change Greenhouse gases, Global warming	
2.	Unit 2: Acid rain, Ozone depletion	
3.	Unit 2: Effects of Climate change on Public Health	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 1st Semester Major NCBCS

Name of the Paper- ZooMT-101- Non-chordate Diversity, Systematics and Evolution

Units Assigned- Unit 4 & 5

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit 4: Mollusca-Gen characters and classification	
2.	Unit 4: Digestive and respiratory system of Pila	
3.	Unit 4: Excretory system of Pila, shell diversity	
4.	Unit 4: Torsion and Detorsion in Mollusca.	
5.	Unit 4: Echinodermata –gen characters & classification, Water vascular system,	
6.	Unit 4: Echinoderm larvae	
7.	Unit 4: Echinoderm larvae	
8.	Unit 5: Systematics and classification, form and hierarchy	
9.	Unit 5: Modern species concept	
10.	Unit 5: Modern species concept	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 2nd Semester Major

Name of the Paper- ZooMT-201- Biochemistry

Units Assigned- Unit 3 & 5

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit 3: General concept of Metabolism- Glycolysis	
2.	Unit 3: Glycolysis, Kreb's cycle	
3.	Unit 3: Kreb's cycle	
4.	Unit 3: Electron Transport System	
5.	Unit 3: Electron Transport System	
6.	Unit 3:ATP synthesis	
7.	Unit 5: Structure of DNA	
8.	Unit 5: Structure of RNA	
9.	Unit 5: Structure of RNA	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 3rd Semester Major

Name of the Paper- ZooMT-301- Chordate Diversity and Comparative Anatomy

Units Assigned- Unit 3, 4 and 5

Marks Assigned- 20/48

Class	Topic/ Unit	Remarks
1.	Unit 3: General character and classification of Amphibia, Parental care	
2.	Unit 3: Parental care, Metamorphosis	
3.	Unit 3: Metamorphosis, Neoteny	
4.	Unit 3: Neoteny	
5.	Unit 4: Mammalia general character and classification	
6.	Unit 4: Affinities of Monotremes and Marsupialia	
7.	Unit 4: Dentition in mammals	
8.	Unit 4: Echolocation in bats, adaptation in aquatic mammals	
9.	Unit 5: Comparative circulatory system in reptiles, birds and mammals	
10.	Unit 5: Comparative circulatory system in birds	
11.	Unit 5: Comparative circulatory system in mammals	
12.	Unit 5: Comparative circulatory system in mammals	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 3rd Semester Major

Name of the Paper- ZooMT-303- Bioinstrumentation and Biostatistics

Units Assigned- Unit 1 and 5

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit 1: Chromatography- Paper Chromatography	
2.	Unit 1: Ion exchange Chromatography, Thin layer Chromatography	
3.	Unit 5: Scope and utility of statistics in Bioscience	
4.	Unit 5: Sampling	
5.	Unit 5: Collection of data and representation	
6.	Unit 5: Representation of data	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 4th Semester Major

Name of the Paper- ZooMT-401 – Cell biology, Histology and Histochemistry

Units Assigned- Unit 1, 2 , 4 and 5

Marks Assigned- 16/48

Class	Topic/ Unit	Remarks
1.	Unit 1: Structure and function of Mitochondria	
2.	Unit 1: Structure and function of Mitochondria	
3.	Unit 1: Structure and function of Nucleus	
4.	Unit 1: Structure and function of Nucleus	
5.	Unit 2: DNA packaging in prokaryotes and eukaryotes	
6.	Unit 2: DNA packaging in eukaryotes, heterochromatin and euchromatin	
7.	Unit 4: Basic concept of Cell Signaling – second messenger	
8.	Unit 4: Cell surface receptors	
9.	Unit 4: Cell surface receptors, G-proteins	
10.	Unit 4: GPCR	
11.	Unit 5: Histological structure of bone	
12.	Unit 5: Histological structure of bone	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 4th Semester Major

Name of the Paper- ZooMT-403 – Developmental Biology

Units Assigned- Unit 2 and 3

Marks Assigned- 14/48

Class	Topic/ Unit	Remarks
1.	Unit 2: Fertilization- types, mechanism	
2.	Unit 2: Mechanism of Fertilization	
3.	Unit 2: Mono and polyspermy , parthenogenesis	
4.	Unit 2: parthenogenesis	
5.	Unit 3: Cleavage – patterns	
6.	Unit 3: Blastulation in chick	
7.	Unit 3: Blastulation in chick	
8.	Unit 3: Gastrulation in chick	
9.	Unit 3: Gastrulation in chick	
10.	Unit 3: Fate maps , fate of germ layers	
11.	Unit 3: Fate of germ layers	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 5th Semester Major

Name of the Paper- ZooMT-501 – Genetics and Evolution

Units Assigned- Unit 1 & 5

Marks Assigned- 14/48

Class	Topic/ Unit	Remarks
1.	Unit 1:Mendel's Laws and critical analysis	
2.	Unit 1: Gene and allele, Physical basis of heredity	
3.	Unit 1: Gene interaction, incomplete dominance	
4.	Unit 1:Complementary and supplementary factors, epistasis	
5.	Unit 1: Lethal factors, Inhibitory factors	
6.	Unit 1: Quantitative genetics	
7.	Unit 5:Continental drift	
8.	Unit 5: Divergent and convergent evolution	
9.	Unit 5: convergent evolution	
10.	Unit 5: Endemism, Adaptive radiation	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 5th Semester Major

Name of the Paper- ZooMT-503 – Animal Physiology

Units Assigned- Unit 5

Marks Assigned- 10/48

Class	Topic/ Unit	Remarks
1.	Unit 5:Nervous system, membrane potential	
2.	Unit 5: Propagation of nerve impulse along myelinated nerve	
3.	Unit 5: Propagation of nerve impulse along non-myelinated nerve	
4.	Unit 5:Synapse- synaptic transmission	
5.	Unit 5: Neurotransmitters , neuromuscular junction	
6.	Unit 5: Reflex activity, Vision- eye structure	
7.	Unit 5:Image formation, eye defects	
8.	Unit 5: Drug addiction, impacts on society	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 5th Semester Major

Name of the Paper- ZooMT-505 – Environmental biology and Wildlife

Units Assigned- Unit 4 and 5

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit 4:Environmental pollution- water pollution	
2.	Unit 4: Bioindicators, Ecological succession	
3.	Unit 4:Ecological succession, Greenhouse effect	
4.	Unit 4:Ecological backlash	
5.	Unit 5: Threats to biodiversity, man-wildlife conflict	
6.	Unit 5: Ex-situ and In-situ conservation	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 5th Semester Major

Name of the Paper- ZooMT-507 – Endocrinology

Units Assigned- Unit 1, 2 and 4

Marks Assigned- 15/48

Class	Topic/ Unit	Remarks
1.	Unit 1: Comparative anatomy of Thyroid gland in fish, amphibia , bird and mammal	
2.	Unit 1: Comparative anatomy of Thyroid gland in, bird and mammal	
3.	Unit 1: Comparative anatomy of Thyroid gland in mammal	
4.	Unit 4:Hormones of reproductive cycle, pregnancy	
5.	Unit 4: Hormones of lactation, parturition	
6.	Unit 4: Contraception methods	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 6th Semester Major

Name of the Paper- ZooMT-601 – Parasitology and Ethology

Units Assigned- Unit 1, 2 and 5

Marks Assigned- 15/48

Class	Topic/ Unit	Remarks
1.	Unit 1: Parasitism, types of parasites, hosts and vectors	
2.	Unit 1: Parasitic adaptations and effects on hosts	
3.	Unit 1:Life history, pathogenicity of <i>Entamoeba</i>	
4.	Unit 1: Life history, pathogenicity of <i>Trypanosoma</i>	
5.	Unit 2:: Life history of <i>Fasciola hepatica</i>	
6.	Unit 2: Parasitic adaptations and pathogenicity of <i>Fasciola hepatica</i>	
7.	Unit 5: Different types of orientation in animals	
8.	Unit 5: Different types of communication in animals	
9.	Unit 5: Comparative aspects of learning	
10.	Unit 5: Offensive and defensive behaviour	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 6th Semester Major

Name of the Paper- ZooMT-603 – Molecular biology and Immunology

Units Assigned- Unit 4

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit4: Immunity –types, cells and organs of immunity	
2.	Unit 4: Organs of immunity	
3.	Unit 4: Lymphoid organs	
4.	Unit 4:Antigens- properties, Adjuvants	
5.	Unit 4: Haptens, antigen- antibody	
6.	Unit 4: Antigen –antibody interaction	
7.	Unit 4: Vaccine and vaccination	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 6th Semester Major

Name of the Paper- ZooMT-604 – Biotechnology and Bioinformatics

Units Assigned- Unit 2 and 4

Marks Assigned- 10/48

Class	Topic/ Unit	Remarks
1.	Unit2: Omics- concept of structural and functional genomics	
2.	Unit 2: Introduction to Proteomics and Transcriptomics	
3.	Unit 2: Transcriptomics	
4.	Unit 4: Fundamentals of bioinformatics, scope, sources of information	
5.	Unit 4: World wide web, Biological database	
6.	Unit 4: Primary database	
7.	Unit 4: Secondary database	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS Major**

Class/Semester- 6th Semester Major

Name of the Paper- ZooMT-606 – Economic Zoology

Units Assigned- Unit 2 and 4

Marks Assigned- 10/48

Class	Topic/ Unit	Remarks
1.	Unit 4: Principles and practice of Aquaculture, Fish culture	
2.	Unit 4: Prawn culture	
3.	Unit 4: Different types of ponds and their management	
4.	Unit 4: Induced breeding and hybridization technique	
5.	Unit 4: Methods of fish preservation, fish by-product	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS GENERAL**

Class/Semester- 1st Semester General

Name of the Paper- ZooGT-101 – Biotechnology and Bioinformatics

Units Assigned- Unit 4 and 5

Marks Assigned- 10/48

Class	Topic/ Unit	Remarks
1.	Unit 4: Mollusca- torsion -detorsion	
2.	Unit 4: Economic importance of molluscs, Echinodermata	
3.	Unit 4: Feeding and locomotion in starfish	
4.	Unit 5: Systematics- classification	
5.	Unit 5: Classification	
6.	Unit 5: Hierarchy of classification	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS GENERAL**

Class/Semester- 2nd Semester General

Name of the Paper- ZooGT-201 – Cell Biology and Biochemistry

Units Assigned- Unit 1, 2 and 5

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit 1: General structure and function of Prokaryotic cell	
2.	Unit 1: General structure and function of Eukaryotic cell	
3.	Unit 2: Structure of Mitochondria	
4.	Unit 2: Function of Mitochondria	
5.	Unit 5: Function of Mitochondria, Electron transport system	
6.	Unit 5: Electron transport system	
7.	Unit 5: Electron transport system, ATP synthesis	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS GENERAL**

Class/Semester- 3rd Semester General

Name of the Paper- ZooGT-301 – Chordate diversity and Developmental Biology

Units Assigned- Unit 1, 2 and 5

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit 1: Fishes- classification, respiratory organs	
2.	Unit 1: respiratory organs, Migration	
3.	Unit 2: Amphibia, classification, Parental care	
4.	Unit 2: parental care	
5.	Unit 5: Cleavage patterns, germ layers	
6.	Unit 5: Germ layers- gastrulation	
7.	Unit 5: Fate maps, cell lineage	

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Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS GENERAL**

Class/Semester- 4th Semester General

Name of the Paper- ZooGT-401 –Animal Physiology and Endocrinology

Units Assigned- Unit 1, 2, 4 and 5

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit 1: Digestion and absorption of proteins	
2.	Unit 1: Digestion and absorption of fats	
3.	Unit 2: Physiology of blood coagulation	
4.	Unit 4: Blood coagulation, Anatomy of Adrenal gland	
5.	Unit 5: Functions of hormones of adrenal gland	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Aparajita Gogoi

Course –Honours / Generic – **Non- CBCS GENERAL**

Class/Semester- 5th Semester General

Name of the Paper- ZooGT-501 –Genetics and Molecular Biology

Units Assigned- Unit 1

Marks Assigned- 12/48

Class	Topic/ Unit	Remarks
1.	Unit 1: Mendel's Laws	
2.	Unit 1: Mendels laws, linkage	
3.	Unit 1: Linkage	
4.	Unit 1: Crossing over	
5.	Unit 1: Crossing over	
6.	Unit 1: Non-chromosomal inheritance	
7.	Unit 1: Non-chromosomal inheritance	
8.	Unit 1: Sex determination	

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Course Plan

Name of the Teacher- **Aparajita Gogoi**

Course –Honours / Generic – **Non- CBCS GENERAL**

Class/Semester- 6th Semester General

Name of the Paper- ZooGT-601 – Animal Ecology and biostatistics

Units Assigned- Unit 1

Marks Assigned- 9/48

Class	Topic/ Unit	Remarks
1.	Unit 1: Concept of Ecosystem	
2.	Unit 1: Biotic and abiotic factors of grassland ecosystem	
3.	Unit 1: Biotic and abiotic factors of aquatic ecosystem	
4.	Unit 1: Population - structure	
5.	Unit 1: Population - structure	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Honours

Class/Semester –1st Semester **(CBCS)**

Name of the Paper - Core Course I: Non-Chordates I: Protists to Pseudocoelomates

Units Assigned – Unit 1: Protista, Parazoa and Metazoa

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1: General characteristics and Classification up to Classes	
2.	Unit 1: General characteristics and Classification up to Classes	
3.	Unit 1: Structural organization & nutrition of Euglena	
4.	Unit 1: Structural organization & nutrition of Euglena	
5.	Unit 1: Structural organization & nutrition of Amoeba	
6.	Unit 1: Structural organization & nutrition of Amoeba	
7.	Unit 1: Structural organization & nutrition of Paramoecium	
8.	Unit 1: Structural organization & nutrition of Paramoecium	
9.	Unit 1: Life cycle and pathogenicity of Plasmodium vivax	
10.	Unit 1: Life cycle and pathogenicity of Plasmodium vivax	
11.	Unit 1: Locomotion and Reproduction in Animal protista	
12.	Unit 1: Locomotion and Reproduction in Animal protista	
13.	Unit 1: Locomotion and Reproduction in Animal protista	
14.	Unit 1: Locomotion and Reproduction in Animal protista	
15.	Unit 1: Evolution of symmetry and segmentation of Metazoa	
16.	Unit 1: Evolution of symmetry and segmentation of Metazoa	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Honours

Class/Semester –1st Semester **(CBCS)**

Name of the Paper - CORE COURSE II: PRINCIPLES OF ECOLOGY

Units Assigned – Unit 1 and Unit 2

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1: Introduction to Ecology History of ecology, Autecology and synecology	
2.	Unit 1: Introduction to Ecology Levels of organization	
3.	Unit 1: Introduction to Ecology Laws of limiting factors,	
4.	Unit 1: Introduction to Ecology Study of abiotic factors	
5.	Unit 1: Introduction to Ecology Study of abiotic factors	
6.	Unit 2: Population Unitary and Modular populations	
7.	Unit 2: Population Unique and group attributes of population: Density, natality, mortality	
8.	Unit 2: Population life tables	
9.	Unit 2: Fecundity tables	
10.	Unit 2: Survivorship curves,	
11.	Unit 2: Population age ratio, sex ratio, dispersal and dispersion strategies	
12.	Unit 2: Population Exponential and logistic growth, equation and patterns, r and K	
13.	Unit 2: Population Exponential and logistic growth, equation and patterns, r and K	
14.	Unit 2: Population Exponential and logistic growth, equation and patterns, r and K	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Generic

Class/Semester –1st Semester **(CBCS)**

Name of the Paper - GE II: ANIMAL DIVERSITY

Units Assigned – Unit 1, Unit 5, Unit 9 and Unit 10

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1. Protista: General characters of Protozoa	
2.	Unit 1. Protista: Life cycle of Plasmodium.	
3.	Unit 5. Pseudocoelomates - General characters of Nemethehelminthes	
4.	Unit 5. Pseudocoelomates - Parasitic adaptations.	
5.	Unit 9. Coelomate Deuterostomes- General characters of Echinodermata	
6.	Unit 9. Coelomate Deuterostomes- Water Vascular system in Starfish.	
7.	Unit 9. Coelomate Deuterostomes- Water Vascular system in Starfish.	
8.	Unit 10. Protochordata- Salient features	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Honours

Class/Semester –2nd Semester (**CBCS**)

Name of the Paper - **CCIII – Non-chordates II: Coelomates**

Units Assigned – Unit 1, Unit 2 and Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit -1 Introduction To Coelomates- Evolution of Coelom and Metamerism.	
2.	Unit -1 Introduction To Coelomates- Evolution of Coelom and Metamerism.	
3.	Unit- 2 General Characteristics And Classification up To Classes	
4.	Unit- 2 General Characteristics And Classification up To Classes	
5.	Unit – 2: Excretion In Annelida	
6.	Unit 4: Onychophora General Characteristics and Evolutionary Significance	
7.	Unit 4: Onychophora General Characteristics and Evolutionary Significance	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Honours

Class/Semester –2nd Semester (**CBCS**)

Name of the Paper - **CCIV –: Cell Biology**

Units Assigned –Unit 4 and Unit 5

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit -4: Mitochondria And Peroxisomes: Mitochondria Structure,	
2.	Unit -4: Mitochondria And Peroxisomes: Semi-Autonomous Nature, Endosymbiotic Hypothesis,	
3.	Unit -4: Mitochondria And Peroxisomes: Semi-Autonomous Nature, Endosymbiotic Hypothesis,	
4.	Unit -4: Mitochondria And Peroxisomes: Mitochondrial Respiratory Chain,	
5.	Unit -4: Mitochondria And Peroxisomes: Mitochondrial Respiratory Chain,	
6.	Unit -4: Mitochondria And Peroxisomes: Chemi-Osmotic Hypothesis,	
7.	Unit -4: Mitochondria And Peroxisomes: Peroxisomes.	
8.	Unit -4: Mitochondria And Peroxisomes: Peroxisomes.	
9.	Unit –5: Cytoskeleton-Structure And Functions: Microtubules,	
10.	Unit –5: Cytoskeleton-Structure And Functions: Microfilaments And IntermediateFilaments.	
11.	Unit –5: Cytoskeleton-Structure And Functions: IntermediateFilaments.	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Generic

Class/Semester –2nd Semester (**CBCS**)

Name of the Paper - **CCII-GE- Viii Insect Vectors and Diseases**

Units Assigned –Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit IV: Dipteran as Disease Vectors.	
2.	Unit IV: Dipterans as important insect vectors – Mosquitoes	
3.	Unit IV: Dipterans as important insect vectors –Sand fly,	
4.	Unit IV: Dipterans as important insect vectors – Houseflies;	
5.	Unit IV: Study of mosquito-borne diseases – Malaria	
6.	Unit IV: Study of mosquito-borne diseases –Dengue, Chikungunya, Viral	
7.	Unit IV:Study of mosquito-borne diseases –Dengue, Chikungunya, Viral encephalitis,	
8.	Unit IV: Control of mosquitoes.	
9.	Unit IV: Study of sand fly-borne diseases – VisceralLeishmaniasis, Cutaneous Leishmaniasis, Phlebotomus fever; Control of Sand fly.	
10.	Unit IV: Study of sand fly-borne diseases – VisceralLeishmaniasis, Cutaneous Leishmaniasis, Phlebotomus fever; Control of Sand fly.	
11.	Unit IV: Study of sand fly-borne diseases – VisceralLeishmaniasis, Cutaneous Leishmaniasis, Phlebotomus fever; Control of Sand fly.	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Hnours

Class/Semester –3rd Semester **(CBCS)**

Name of the Paper - CORE COURSE V: DIVERSITY OF CHORDATA

Units Assigned – Unit 1, Unit 2, and Unit 3

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1: Introduction to Chordates- General characteristics and outline classification	
2.	Unit 1: Introduction to Chordates- General characteristics and outline classification	
3.	Unit 2: Protochordata - General characteristics of Hemichordata	
4.	Unit 2: Protochordata - General characteristics of Urochordata	
5.	Unit 2: Protochordata - General characteristics of Cephalochordata	
6.	Unit 2: Protochordata - Study of larval forms in protochordates	
7.	Unit 2: Protochordata - Study of larval forms in protochordates	
8.	Unit 10. Protochordata- Retrogressive metamorphosis in Urochordata	
9.	Unit 10. Protochordata- Retrogressive metamorphosis in Urochordata	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Hnours

Class/Semester –3rd Semester **(CBCS)**

Name of the Paper - Core Course VI: Animal Physiology: Controlling and Coordinating Systems

Units Assigned – Unit 1 and Unit 5

Class	Topic/ Unit	Remarks
1.	Unit 1: Tissues- Structure, location, classification and functions of epithelial tissue	
2.	Unit 1: Tissues- Structure, location, classification and functions of epithelial tissue	
3.	Unit 1: Tissues - Structure, location, classification and functions of connective tissue	
4.	Unit 1: Tissues - Structure, location, classification and functions of connective tissue	
5.	Unit 1: Tissues - Structure, location, classification and functions of nervous tissue	
6.	Unit 1: Tissues - Structure, location, classification and functions of nervous tissue	
7.	Unit 5: Reproductive System - Histology of testis and ovary	
8.	Unit 5: Reproductive System - Histology of testis and ovary	
9.	Unit 5: Reproductive System - Physiology of male and female reproduction	
10.	Unit 5: Reproductive System - Physiology of male and female reproduction	
11.	Unit 5: Reproductive System - Physiology of male and female reproduction	
13.	Unit 5: Reproductive System – Puberty	
14.	Unit 5: Reproductive System - Methods of contraception in male and female	
15.	Unit 5: Reproductive System - Methods of contraception in male and female	

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Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Honours

Class/Semester –3rd Semester **(CBCS)**

Name of the Paper – **Core Course VII: Fundamentals of Biochemistry**

Units Assigned – Unit 5

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 5: Enzymes- Nomenclature and classification	
2.	Unit 5: Enzymes- Nomenclature and classification	
3.	Unit 5: Enzymes - Cofactors	
4.	Unit 5: Enzymes - Specificity of enzyme action	
5.	Unit 5: Enzymes - Isozymes	
6.	Unit 5: Enzymes - Mechanism of enzyme action	
7.	Unit 5: Enzymes - Mechanism of enzyme action	
8.	Unit 5: Enzymes - Enzyme kinetics	
9.	Unit 5: Enzymes - Enzyme kinetics	
10.	Unit 5: Enzymes - Factors affecting rate of enzyme-catalyzed reactions	
11.	Unit 5: Enzymes - Factors affecting rate of enzyme-catalyzed reactions	
13.	Unit 5: Enzymes- Derivation of MichaelisMenten equation	
14.	Unit 5: Enzymes- Concept of Km and Vmax, Lineweaver-Burk plot	
15.	Unit 5: Enzymes - Multisubstrate reactions	
16.	Unit 5: Enzymes - Enzyme inhibition	
17.	Unit 5: Enzymes - Enzyme inhibition	
18.	Unit 5: Enzymes- Allosteric enzymes and their kinetics	
19.	Unit 5: Enzymes- Regulation of enzyme action.	

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Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – **Generic**

Class/Semester –3rd Semester **(CBCS)**

Name of the Paper – **GE VII: HUMAN PHYSIOLOGY**

Units Assigned – Unit 3 and Unit 6

Class	Topic/ Unit	Remarks
1.	Unit 3: Respiratory Physiology Ventilation, External and internal Respiration,	
2.	Unit 3:Transport of oxygen and carbon dioxide in blood,	
3.	Unit 3:Transport of oxygen and carbon dioxide in blood	
4.	Unit 3: Factors affecting transport of gases	
5.	Unit 6: Endocrine and Reproductive Physiology Structure and function of endocrine glands (ovaries, and testes),	
6.	Unit 6: Endocrine and Reproductive Physiology Structure and function of endocrine glands (ovaries, and testes),	
7.	Unit 6: Endocrine and Reproductive Physiology Structure and function of endocrine glands (ovaries, and testes),	
8.	Unit 6: Brief account of spermatogenesis and oogenesis	
9.	Unit 6: Brief account of spermatogenesis and oogenesis	
10.	Unit 6: Menstrual cycle.	

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Course Plan

Name of the Teacher- **Dr. Kishor Haloi**

Course –Honours / Generic – Honours

Class/Semester –4th Semester (**CBCS**)

Name of the Paper - **Core Course VIII: Comparative Anatomy of Vertebrate**

Units Assigned – Unit 7 and Unit 8

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 7: Nervous System Comparative account of brain	
2.	Unit 7: Nervous System Comparative account of brain	
3.	Unit 7: Autonomic nervous system	
4.	Unit 7: Autonomic nervous system	
5.	Unit 7: Spinal cord, Cranial nerves in mammals	
6.	Unit 7: Spinal cord, Cranial nerves in mammals	
7.	Unit 7: Cranial nerves in mammals	
8.	Unit 7: Cranial nerves in mammals	
9.	Unit 8: Sense Organs Classification of receptors	
10.	Unit 8: Sense Organs Classification of receptors	
11.	Unit 8: Brief account of visual receptors in man	
12.	Unit 8: Brief account of visual receptors in man	
13.	Unit 8: Brief account of auditory receptors in man	
14.	Unit 8: Brief account of auditory receptors in man	

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Course Plan

Name of the Teacher- Dr. **Dr. Kishor Haloi**

Course –Honours / Generic – Honours

Class/Semester –4th Semester (**CBCS**)

Name of the Paper - **Core Course IX: Animal Physiology: Life Sustaining Systems**

Units Assigned – Unit 5

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 5: Physiology of Heart Structure of mammalian heart	
2.	Unit 5: Physiology of Heart Coronary circulation	
3.	Unit 5: Physiology of Heart Structure and working of conducting myocardial fibers	
4.	Unit 5: Physiology of Heart Structure and working of conducting myocardial fibers	
5.	Unit 5: Physiology of Heart Origin and conduction of cardiac impulses Cardiac cycle	
6.	Unit 5: Physiology of Heart Origin and conduction of cardiac impulses Cardiac cycle	
7.	Unit 5: Physiology of Heart Cardiac output and its regulation	
8.	Unit 5: Physiology of Heart Frank-Starling Law of the heart	
9.	Unit 5: Physiology of Heart nervous and chemical regulation of heart rate	
10.	Unit 5: Physiology of Heart Electrocardiogram	
11.	Unit 5: Physiology of Heart Blood pressure and its regulation	
12.	Unit 5: Physiology of Heart Blood pressure and its regulation	

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Course Plan

Name of the Teacher- Dr. Kishor Haloi

Course –Honours / Generic – Honours

Class/Semester –4th Semester (**CBCS**)

Name of the Paper – **CORE COURSE X: Biochemistry of Metabolic Processes**

Units Assigned – Unit 1 and Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1: Overview of Metabolism Use of reducing equivalents and cofactors;	
2.	Unit 1: Overview of Metabolism basics of intermediary metabolism and overview of regulatory strategies.	
3.	Cofactors; Specificity of enzyme action; Isozymes; Mechanism of enzyme action; Enzyme kinetics; Factors affecting rate of enzyme-catalyzed reactions; Derivation of MichaelisMenten equation, Concept of Km and Vmax, Lineweaver- Burk plot; Multisubstrate reactions; Enzyme inhibition; Allosteric enzymes and their kinetics; Regulation of enzyme action	
4.	Unit 4: Protein Metabolism Catabolism of amino acids	
5.	Unit 4: Protein Metabolism Transamination	
6.	Unit 4: Protein Metabolism Deamination	
7.	Unit 4: Protein Metabolism Urea cycle	
8.	Unit 4: Protein Metabolism Urea cycle	
9.	Unit 4: Protein Metabolism Fate of C-skeleton of Glucogenic and Ketogenic amino acids.	
10.	Unit 4: Protein Metabolism Fate of C-skeleton of Glucogenic and Ketogenic amino acids.	

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Course Plan

Name of the Teacher- Dr. Kishor Haloi

Course –Honours / Generic – **Generic**

Class/Semester –4th Semester (**CBCS**)

Name of the Paper – **GE IV: ENVIRONMENT AND PUBLIC HEALTH**

Units Assigned – Unit 1 and Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	UNIT I: Introduction: Sources of Environmental hazards, hazard identification and accounting.	
2.	UNIT I: Introduction: Sources of Environmental hazards, hazard identification and accounting	
3.	UNIT I: Introduction: Fate of toxic and persistent substances in the environment	
4.	UNIT I: Introduction: Dose Response Evaluation	
5.	UNIT I: Introduction: Exposure Assessment	

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Course Plan

Name of the Teacher- Dr. Kishor Haloi

Course –Honours / Generic – **Honours**

Class/Semester –5th Semester (**CBCS**)

Name of the Paper – **Core Course XI: Molecular Biology**

Units Assigned – Unit 4, Unit 7 and Unit 8

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 4 : Genetic code	
2.	Unit 4 :Degeneracy of the genetic code and Wobble Hypothesis and assembly in prokaryotes	
3.	Unit 4 :Process of protein synthesis in prokaryotes: Ribosome structure	
4.	Unit 4 : Fidelity of protein synthesis,	
5.	Unit 4 : Aminoacyl tRNA synthetases and charging of tRNA	
6.	Unit 4 : Proteins involved in initiation, elongation and termination of polypeptide chain	
7.	Unit 4 : Proteins involved in initiation, elongation and termination of polypeptide chain	
8.	Unit 4 :Inhibitors of protein synthesis	
9.	Unit 4 :Difference between prokaryotic and eukaryotic translation	
10.	Unit 7: DNA Repair Mechanisms Pyrimidine dimerization and mismatch repair	
11.	Unit 7: DNA Repair Mechanisms Pyrimidine dimerization and mismatch repair	
12.	Unit 8: Regulatory RNAs Concept of Ribo-switches	
13.	Unit 8: RNA interference, miRNA, siRNA	
14.	Unit 8: RNA interference, miRNA, siRNA	

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Course Plan

Name of the Teacher- Dr. Kishor Haloi

Course –Honours / Generic – **Honours**

Class/Semester –5th Semester (**CBCS**)

Name of the Paper – **Core Course XII: Principles of Genetics**

Units Assigned – Unit 6, Unit 7 and Unit 8

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 6: Polygenic Inheritance Polygenic inheritance with suitable examples; simple numericals based on it	
2.	Unit 6: Polygenic Inheritance Polygenic inheritance with suitable examples; simple numericals based on it	
3.	Unit 7: Recombination in Bacteria and Viruses Conjugation, Transformation, Transduction	
4.	Unit 7: Recombination in Bacteria and Viruses Conjugation, Transformation, Transduction,	
5.	Unit 7: Complementation test in Bacteriophage	
6.	Unit 8: Transposable Genetic Elements Transposons in bacteria	
7.	Unit 8: Transposable Genetic Elements Ac-Ds elements in maize and P elements in <i>Drosophila</i>	
8.	Unit 8: Transposable Genetic Elements Ac-Ds elements in maize and P elements in <i>Drosophila</i>	
9.	Unit 8: Transposable Genetic Elements Transposons in humans	
10.	Unit 8: Transposable Genetic Elements Transposons in humans	

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Course Plan

Name of the Teacher- Dr. Kishor Haloi

Course –Honours / Generic – **Honours**

Class/Semester –5th Semester (**CBCS**)

Name of the Paper –

Units Assigned – Unit 6, Unit 7 and Unit 8

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems - Integumentary	
2.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems - Integumentary	
3.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems - excretory	
4.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems - excretory	
5.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems - circulatory	
6.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems -circulatory	
7.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems - respiratory	
8.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems - respiratory	
9.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems - endocrine	
10.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems –endocrine	
11.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems – reproductive	
12.	Unit IV: Physiology of Insects Structure and physiology of Insect body systems – reproductive	
13.	Unit IV: Physiology of Insects - Sensory receptors and nervous system	
14.	Unit IV: Physiology of Insects - Sensory receptors and nervous system	
15.	Unit IV: Physiology of Insects - Growth and metamorphosis	
16.	Unit IV: Physiology of Insects - Growth and metamorphosis	

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Course Plan

Name of the Teacher- Dr. Kishor Haloi

Course –Honours / Generic – **Honours**

Class/Semester –5th Semester (**CBCS**)

Name of the Paper – **DSE Course III: Endocrinology**

Units Assigned – Unit 1, and Unit 2

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1: Introduction to Endocrinology History of endocrinology, Classification	
2.	Unit 1: Introduction to Endocrinology History of endocrinology, Classification	
3.	Unit 1: Characteristic and Transport of Hormones	
4.	Unit 1: Characteristic and Transport of Hormones	
5.	Unit 1: Neurosecretions and Neurohormones	
6.	Unit 1: Neurosecretions and Neurohormones	
7.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis Structure of pineal gland,	
8.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis Secretions and their functions in biological rhythms and reproduction.	
9.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis - Structure of hypothalamus,	
10.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis - Hypothalamic nuclei and their functions,	
11.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis - Regulation of Neuroendocrine glands	
12.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis - Feedback Mechanisms	
13.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis - Hormones and their Functions,	
14.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis - Hypothalamo- hypophysial portal system	
15.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis - Disorders of pituitary gland.	
16.	Unit 2: Epiphysis, Hypothalamo-hypophysial Axis - Disorders of pituitary gland.	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –1st Semester (CBCS)

Name of the Paper - **Course Code: Zc101t Core Course I: Non-Chordates I: Protists to Pseudocoelomates**

Units Assigned – Unit 3 and Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 3: Cnidaria- General characteristics and Classification up to classes	
2.	Unit 3: Cnidaria- General characteristics and Classification up to classes	
3.	Unit 3: Cnidaria- Metagenesis in Obelia	
4.	Unit 3: Cnidaria- Polymorphism in Cnidaria	
5.	Unit 3: Cnidaria- Polymorphism in Cnidaria	
6.	Unit 4: Ctenophora General characteristics	
7.	Unit 4: Ctenophora- Evolutionary significance of Ctenophora	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –1st Semester (CBCS)

Name of the Paper - **Core Course II: Principles of Ecology**

Units Assigned – Unit 2 and Unit 3

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 2: Population Population regulation - density-dependent and independent factors Population interactions,	
2.	Unit 2: Population Population regulation - density-dependent and independent factors Population interactions,	
3.	Unit 2: Population Population regulation - density-dependent and independent factors Population interactions,	
4.	Unit 2: Gause's Principle with laboratory and field examples	
5.	Unit 2: Gause's Principle with laboratory and field examples,	
6.	Unit 2: Lotka-Volterra equation for competition and Predation, functional and numerical responses.	
7.	Unit 2: Lotka-Volterra equation for competition and Predation, functional and numerical responses.	
8.	Unit 4: Ecosystem - Nutrient and biogeochemical cycle with Nitrogen cycle as an example Human modified ecosystem	
9.	Unit 4: Ecosystem - Nutrient and biogeochemical cycle with Nitrogen cycle as an example Human modified ecosystem	

DIGBOI COLLEGE, DIGBOI

Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Generic**

Class/Semester –1st Semester (**CBCS**)

Name of the Paper - **GE II: Animal Diversity**

Units Assigned – Unit 3, Unit 6, Unit 11 and Unit 13

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 3. Radiata - General characters of Cnidarians and polymorphism	
2.	Unit 3. Radiata - Polymorphism	
3.	Unit 3. Radiata - Polymorphism	
4.	Unit 6. Coelomate - Protostomes General Characters of Annelida	
5.	Unit 6. Coelomate - Metamerism	
6.	Unit 11. Pisces - Osmoregulation	
7.	Unit 11. Pisces -Migration of Fishes	
8.	Unit 13. Reptiles - Amniotes	
9.	Unit 13. Reptiles - Origin of reptiles.	
10.	Unit 13. Reptiles - Terrestrial adaptations in Reptiles	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –2nd Semester **(CBCS)**

Name of the Paper - **CCIII – Non-chordates II: Coelomates**

Units Assigned – Unit 5

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit: 5 - General Characters of Mollusca	
2.	Unit: 5 - Classification of Mollusca	
3.	Unit: 5 - Classification of Mollusca	
4.	Unit: 5 - Pearl formation in Mollusca	
5.	Unit: 5 - Pearl formation in Mollusca	
6.	Unit: 5 - Respiration in Mollusca	
7.	Unit: 5 - Respiration in Mollusca	
8.	Unit: 5 - Evolutionary significance of Trocophore larva	
9.		

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –2nd Semester (**CBCS**)

Name of the Paper - **CCIV – Cell Biology**

Units Assigned – Unit 1, Unit 2 and Unit 3 and Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1: Prokaryotic and Eukaryotic cells	
2.	Unit 1: Virus	
3.	Unit 1: Viroids	
4.	Unit 1: Mycoplasma	
5.	Unit 1: Prions	
6.	Unit 2: Mitosis	
7.	Unit 2: Mitosis	
8.	Unit 2: Cell Cycle and its regulation.	
9.	Unit 2: Cell Cycle and its regulation.	
10.	Unit 3: Structure & functions: Golgi Bodies	
11.	Unit 3: Structure & functions: Golgi Bodies	
12.	Unit 3: Structure & functions: Lysosomes	
13.	Unit 3: Structure & functions: Lysosomes	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Generic**

Class/Semester –**2nd Semester (CBCS)**

Name of the Paper - **CCII-GE- VIII Insect Vectors and Diseases**

Units Assigned – Unit 4 and Unit 5

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit IV: Dipteran as Disease Vectors: Study of house fly as important mechanical vector,	
2.	Unit IV: Myiasis and Control of house fly.	
3.	Unit V: Siphunculata as Disease Vectors: Human louse (Head, Body and Pubic louse) as important insect vectors;	
4.	Unit V: Siphunculata as Disease Vectors: Human louse (Head, Body and Pubic louse) as important insect vectors;	
5.	Unit V: Study of louse-borne diseases –Typhus fever	
6.	Unit V: Study of louse-borne diseases – Relapsing fever	
7.	Unit V: Study of louse-borne diseases - Trench fever	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Honours**

Class/Semester –**3rd Semester (CBCS)**

Name of the Paper - **Core Course V: Diversity of Chordata**

Units Assigned – Unit 8 and Unit 10

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 8: Aves- General characteristics and classification	
2.	Unit 8: Aves- General characteristics and classification	
3.	Unit 8: Aves- Archaeopteryx-- a connecting link	
4.	Unit 8: Aves- Principles and aerodynamics of flight	
5.	Unit 8: Aves- Principles and aerodynamics of flight	
6.	Unit 8: Aves-Flight adaptations	
7.	Unit 8: Aves-Flight adaptations	
8.	Unit 8: Aves-Migration in birds	
9.	Unit 8: Aves-Migration in birds	
10.	Unit 10: Zoogeography - Zoogeographical realms	
11.	Unit 10: Zoogeography - Theories pertaining to distribution of animals	
12.	Unit 10: Zoogeography - Plate tectonic and Continental drift theory	
13.	Unit 10: Zoogeography - Distribution of vertebrates in different realms	
13.	Unit 10: Zoogeography - Distribution of vertebrates in different realms	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Honours**

Class/Semester –**3rd Semester (CBCS)**

Name of the Paper - **Core Course Vi: Animal Physiology: Controlling And Coordinating Systems**

Units Assigned – Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 4: Muscle - Histology of different types of muscle	
	Unit 4: Muscle - Histology of different types of muscle	
2.	Unit 4: Muscle - Ultra structure of skeletal muscle	
3.	Unit 4: Muscle - Molecular and chemical basis of muscle contraction	
4.	Unit 4: Muscle - Molecular and chemical basis of muscle contraction	
5.	Unit 4: Muscle - Characteristics of muscle twitch	
6.	Unit 4: Muscle - Summation and tetanus.	
7.	Unit 4: Muscle - Motor unit	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Honours**

Class/Semester –**3rd Semester (CBCS)**

Name of the Paper - **Core Course Vi: CCVII-Fundamentals of Biochemistry**

Units Assigned – Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1: Carbohydrates - Structure and Biological importance: Monosaccharides	
2.	Unit 1: Carbohydrates - Structure and Biological importance: Monosaccharides	
3.	Unit 1: Carbohydrates - Structure and Biological importance: Disaccharides	
4.	Unit 1: Carbohydrates - Structure and Biological importance: Disaccharides	
5.	Unit 1: Carbohydrates - Structure and Biological importance: Polysaccharides	
6.	Unit 1: Carbohydrates - Structure and Biological importance: Polysaccharides	
7.	Unit 1: Carbohydrates - Structure and Biological importance: Glycoconjugates	
8.	Unit 1: Carbohydrates – Structure and Biological importance: Glycoconjugates	
9.	Unit 2: Lipids - Structure and Significance	
10.	Unit 2: Lipids - Physiologically important saturated and unsaturated fatty acids	
11.	Unit 2: Lipids - Tri-acylglycerols, Phospholipids, Glycolipids, Steroids.	
12.	Unit 2: Lipids - Tri-acylglycerols, Phospholipids, Glycolipids, Steroids.	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Generic**

Class/Semester –**3rd Semester (CBCS)**

Name of the Paper – **GE VII: Human Physiology**

Units Assigned – Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 4: Renal Physiology - Functional anatomy of kidney	
2.	Unit 4: Renal Physiology - Mechanism and regulation of urine formation	
3.	Unit 4: Renal Physiology - Mechanism and regulation of urine formation	
4.	Unit 5: Cardiovascular Physiology - Structure of heart, Coordination of heartbeat, Cardiac cycle, ECG	
5.	Unit 5: Cardiovascular Physiology - Structure of heart,	
6.	Unit 5: Cardiovascular Physiology -Coordination of heartbeat,	
7.	Unit 5: Cardiovascular Physiology - Cardiac cycle	
8.	Unit 5: Cardiovascular Physiology - ECG	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –4th Semester **(CBCS)**

Name of the Paper - **Core Course VIII: Comparative Anatomy Of Vertebrate**

Units Assigned – Unit 5 and Unit 6

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 5: Circulatory System General plan of circulation	
2.	Unit 5: Evolution of heart	
3.	Unit 5: Evolution of heart	
4.	Unit 5: Evolution of aortic arches	
5.	Unit 5: Evolution of aortic arches	
6.	Unit 6: Urinogenital System	
7.	Unit 6: Succession of kidney	
8.	Unit 6: Succession of kidney	
9.	Unit 6: Evolution of urinogenital ducts	
10.	Unit 6: Evolution of urinogenital ducts	
11.	Unit 6: Types of mammalian uteri	
12.	Unit 6: Types of mammalian uteri	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –4th Semester **(CBCS)**

Name of the Paper - **Core Course IX: Animal Physiology: Life Sustaining Systems**

Units Assigned – Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 4: Blood Components of blood and their functions	
2.	Unit 4: Blood Components of blood and their functions	
3.	Unit 4: Blood Structure and functions of haemoglobin	
4.	Unit 4: Blood Haemostasis	
5.	Unit 4: Blood Blood clotting system,	
6.	Unit 4: Blood Blood clotting system,	
7.	Unit 4: Blood Kallikrein-Kininogen system,	
8.	Unit 4: Blood Complement system & Fibrinolytic system	
9.	Unit 4: Blood Complement system& Fibrinolytic system	
10.	Unit 4: Blood Haemopoiesis	
11.	Unit 4: Blood Blood groups: Rh factor, ABO and MN.	
12.	Unit 4: Blood Blood groups: Rh factor, ABO and MN.	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –4th Semester (CBCS)

Name of the Paper – **CORE COURSE X: Biochemistry of Metabolic Processes**

Units Assigned – Unit 1 and Unit 3

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 1: Overview of Metabolism Catabolism vs Anabolism, Stages of catabolism	
2.	Unit 1: Overview of Metabolism Compartmentalization of metabolic pathways	
3.	Unit 3: Lipid Metabolism β -oxidation and omega -oxidation of saturated fatty acids with even and odd number of carbon atoms	
4.	Unit 3: Lipid Metabolism β -oxidation and omega -oxidation of saturated fatty acids with even and odd number of carbon atoms	
5.	Unit 3: Lipid Metabolism β -oxidation and omega -oxidation of saturated fatty acids with even and odd number of carbon atoms	
6.	Unit 3: Lipid Metabolism β -oxidation and omega -oxidation of saturated fatty acids with even and odd number of carbon atoms	
7.	Unit 3: Lipid Metabolism Biosynthesis of palmitic acid	
8.	Unit 3: Lipid Metabolism Biosynthesis of palmitic acid	
9.	Unit 3: Lipid Metabolism Ketogenesis	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Generic**

Class/Semester –4th Semester (**CBCS**)

Name of the Paper – **GE IV: Environment and Public Health**

Units Assigned – Unit 1 and Unit 5

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 3: Pollution- Air pollution sources and effects	
2.	Unit 3: Pollution -Water pollution sources and effects	
3.	Unit 3: Pollution Noise - pollution sources and effects	
4.	Unit 5 Diseases - Causes, symptoms and control of tuberculosis	
5.	Unit 5 Diseases - Causes, symptoms and control of tuberculosis	
6.	Unit 5 Diseases - Causes, symptoms and control of Asthma	
7.	Unit 5 Diseases - Causes, symptoms and control of Asthma s	
8.	Unit 5 Diseases - Causes, symptoms and control of Cholera	
9.	Unit 5 Diseases - Causes, symptoms and control of Cholera	
10.	Unit 5 Diseases - Causes, symptoms and control of Minamata Disease	
11.	Unit 5 Diseases - Causes, symptoms and control of Minamata Disease	
12.	Unit 5 Diseases - Causes, symptoms and control of typhoid	
13.	Unit 5 Diseases - Causes, symptoms and control of typhoid	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Honours**

Class/Semester –5th Semester (**CBCS**)

Name of the Paper – **CORE COURSE XI: Molecular Biology**

Units Assigned – Unit 6

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 6: Gene Regulation - Transcription regulation in prokaryotes: Principles of transcriptional regulation	
2.	Unit 6: Gene Regulation - Transcription regulation in prokaryotes: Principles of transcriptional regulation with examples from <i>lac</i> operon	
3.	Unit 6: Gene Regulation - Transcription regulation in prokaryotes: Principles of transcriptional regulation with examples from <i>trp</i> operon;	
4.	Unit 6: Gene Regulation - Transcription regulation in eukaryotes: Activators, repressors, enhancers, silencer elements; Gene silencing, Genetic imprinting	
5.	Unit 6: Gene Regulation - Transcription regulation in eukaryotes: Activators, repressors, enhancers, silencer elements; Gene silencing, Genetic imprinting	
6.	Unit 6: Gene Regulation - Transcription regulation in eukaryotes: Activators, repressors, enhancers, silencer elements; Gene silencing, Genetic imprinting	
7.	Unit 6: Gene Regulation - Transcription regulation in eukaryotes: Activators, repressors, enhancers, silencer elements; Gene silencing, Genetic imprinting	
8.	Unit 6: Gene Regulation - Transcription regulation in eukaryotes: Activators, repressors, enhancers, silencer elements; Gene silencing, Genetic imprinting	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Honours**

Class/Semester –5th Semester (**CBCS**)

Name of the Paper – **CORE COURSE XII: PRINCIPLES OF GENETICS**

Units Assigned – Unit 2 and Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Linkage and crossing over	
2.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Cytological basis of crossing over	
3.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Cytological basis of crossing over	
4.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Molecular mechanisms of crossing over including models of recombination	
5.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Molecular mechanisms of crossing over including models of recombination	
6.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Recombination frequency as a measure of linkage intensity, Two factor and three factor crosses, Interference and coincidence, Somatic cell hybridization.	
7.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Two factor and three factor crosses, Interference and coincidence, Somatic cell hybridization.	
8.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Two factor and three factor crosses, Interference and coincidence, Somatic cell hybridization.	
9.	Unit 2: Linkage, Crossing Over and Chromosomal Mapping Two factor and three factor crosses, Interference and coincidence, Somatic cell hybridization.	
11.	Unit 4: Sex Determination Chromosomal mechanisms of sex determination in Drosophila and Man	
12.	Unit 4: Sex Determination Chromosomal mechanisms of sex determination in Drosophila and Man	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Honours**

Class/Semester –5th Semester (**CBCS**)

Name of the Paper – **DSE Course III: ENDOCRINOLOGY**

Units Assigned –Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit 4: Regulation of Hormone Action Hormone action at Cellular level and molecular level	
2.	Unit 4: Regulation of Hormone Action Hormone action at Cellular level and molecular level	
3.	Unit 4: Regulation of Hormone Action - Hormone receptor : signal transducer, second messenger	
4.	Unit 4: Regulation of Hormone Action - Hormone receptor : signal transducer, second messenger	
5.	Unit 4: Regulation of Hormone Action - Hormones in homeostasis	
6.	Unit 4: Regulation of Hormone Action - Hormones in homeostasis	
7.	Unit 4: Regulation of Hormone Action - Disorders of endocrine glands	
8.	Unit 4: Regulation of Hormone Action - Disorders of endocrine glands	
9.	Unit 4: Regulation of Hormone Action - Disorders of endocrine glands	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – **Honours**

Class/Semester –5th Semester (**CBCS**)

Name of the Paper – **DSE Course IV: BIOLOGY OF INSECTA**

Units Assigned –Unit 4

Marks Assigned – 13.25 out of 53

Class	Topic/ Unit	Remarks
1.	Unit I: Introduction - General Features of Insects	
2.	Unit I: Introduction - Distribution and Success of Insects on the Earth	
3.	Unit VI: Insects as Vectors Insects as mechanical and Biological vectors,	
4.	Unit VI: Insects as Vectors Brief discussion on houseflies and mosquitoes as important insect vectors	
5.	Unit VI: Insects as Vectors Brief discussion on houseflies and mosquitoes as important insect vectors	
6.	Unit VI: Insects as Vectors Brief discussion on houseflies and mosquitoes as important insect vectors	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester – 4th Semester (**Non CBCS**)

Name of the Paper – **Zoo MT- 401: Cell Biology, Histology & Histochemistry**

Units Assigned – Unit 1, Unit 2 and Unit 5

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit 1 Overview of prokaryotic and eukaryotic cells	
2.	Unit 1 Extra cellular matrix	
3.	Unit 1 : Structure and functions of chromosome	
4.	Unit 1 : Polytene and lamp brush chromosomes	
5.	Unit 1 : Chromatin- molecular organization	
6.	Unit 1 : Nucleosome	
7.	Unit 2 : Heterochromatin and euchromatin	
8.	Unit 2 : Models of chromosomal movements	
9.	Unit 2 : Models of chromosomal movements	
10.	Unit 5 : Animal tissues- types and functions – Epithelium	
11.	Unit 5: Animal tissues- types and functions – Epithelium	
12.	Unit 5: Animal tissues- types and functions – Epithelium	
13.	Unit 5: Animal tissues- types and functions – Epithelium	
14.	Unit 5: Animal tissues- types and functions – Epithelium	
15.		

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –4th Semester (**Non CBCS**)

Name of the Paper - **Zoo MT- 403: Developmental Biology**

Units Assigned – Unit 3

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit-3: Cleavage and gastrulation- cleavage pattern	
2.	Unit-3: Cleavage and gastrulation- cleavage pattern	
3.	Unit-3: Blastulation in chick	
4.	Unit-3: Gastrulation in chick	
5.	Unit-3: Gastrulation in chick	
6.	Unit-3: Cleavage and gastrulation- cleavage pattern	
7.	organisers	
8.	Unit-3: Primary organisers	
9.	Unit 3: Induction, property and mechanism of action of inductive substances	
10.	Unit 3: Induction, property and mechanism of action of inductive substances	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –5th Semester (**Non CBCS**)

Name of the Paper - **ZooMT- 501: Genetics and Evolution**

Units Assigned – Unit 2 and Unit 5

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit-2: Linkage and crossing over	
2.	Unit-2: Basic knowledge of gene mapping	
3.	Unit-2: Determination of sex,	
4.	Unit-2: Sex-linked inheritance; cytoplasmic inheritance	
5.	Unit-2: Cytoplasmic inheritance	
6.	Unit-5: Change in gene frequency (genetic drift, gene flow, genetic load)	
7.	Unit-5: Continental drift; parallel, divergent and convergent evolution; endemism and adaptive radiation	
8.	Unit-5: Divergent and convergent evolution	
9.	Unit-5: Endemism and adaptive radiation	
10.	Unit-5: Endemism and adaptive radiation	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –5th Semester (**Non CBCS**)

Name of the Paper - **ZooMT- 503: Animal Physiology**

Units Assigned –Unit 5

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit-5: Nervous system- neurons, resting membrane potential and its basis, action potential	
2.	Unit-5: Propagation of nerve impulse in myelinated and non-myelinated nerve fibre	
3.	Unit-5: Types of synapses and synaptic transmission; neuro-transmitters- their release and action	
4.	Unit-5: Types of synapses and synaptic transmission; neuro-transmitters- their release and action	
5.	Unit-5: Neuromuscular junction	
6.	Unit-5: Types of reflexes; reflex activity; reflex arc;	
7.	Unit-5: Types of reflexes; reflex activity; reflex arc;	
8.	Unit-5: Physiology of vision;	
9.	Unit-5: Addictive drugs-types; drug addiction- causes, physiological effects; social implications.	
10.	Unit-5: Addictive drugs-types; drug addiction- causes, physiological effects; social implications.	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –5th Semester (**Non CBCS**)

Name of the Paper - **ZooMT- 505: Environmental Biology and Wildlife**

Units Assigned –Unit 4

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit-4: Environmental pollution (water, air and soil);	
2.	Unit-4: Environmental pollution (water, air and soil);	
3.	Unit-4: Environmental pollution (water, air and soil);	
4.	Unit 4: Bioindicators in pollution studies;	
5.	Unit 4: Ecological succession	
6.	Unit 4: Ecological backlash	
7.	Unit 4: Greenhouse effect	
8.	Unit 4: Ozone layer depletion and its impact.	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –5th Semester (**Non CBCS**)

Name of the Paper - **ZooMT- 507: Endocrinology**

Units Assigned –Unit 1, Unit 2 and Unit 4

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit-1: Comparative anatomy of pancreas in fish, amphibia, birds and mammals.	
2.	Unit-1: Comparative anatomy of pancreas in fish, amphibia, birds and mammals.	
3.	Unit-1: Comparative anatomy of pancreas in fish, amphibia, birds and mammals.	
4.	Unit-2: Hormones secreted by endocrine glands (pancreas) and their functions in mammals	
5.	Unit-2: Hormones secreted by endocrine glands (pancreas) and their functions in mammals	
6.	Unit-2: Hormones secreted by endocrine glands (pancreas) and their functions in mammals	
7.	Unit-4: Roles of hormones in reproductive cycle	
8.	Unit 4: Pregnancy, parturition and lactation; methods of contraception;	
9.	Unit 4: Pregnancy, parturition and lactation; methods of contraception;	
10.	Unit 4: Amniocentesis and IVF.	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –6th **Semester (NONCBCS)**

Name of the Paper - **Zoo MT- 601: Parasitology and Ethology**

Units Assigned – Unit 5

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit 1: Life History And Mode of Infection And Pathogenicity Of Trichomonas Vaginalis	
2.	Unit 1: Life History And Mode of Infection And Pathogenicity Of Trichomonas Vaginalis	
3.	Unit 1: Life History And Mode of Infection And Pathogenicity Of Trichomonas Vaginalis	
4.	Unit 1: Life History And Mode of Infection And Pathogenicity Of Plasmodium.	
5.	Unit 1: Life History And Mode of Infection And Pathogenicity Of Plasmodium.	
6.	Unit 1: Life History And Mode of Infection And Pathogenicity Of Plasmodium.	
7.	Unit 2: Life History of Taenia Solium	
8.	Unit 2: Parasitic Adaptation and Pathogenicity of Taenia solium	
9.	Unit 2: Life History of Ancylostoma duodenale.	
10.	Unit 2: Parasitic Adaptation and Pathogenicity of Ancylostoma duodenale	
11.	UNIT 4: Sense organs and behaviour; genetical and ecological aspects of behavior	
12.	Unit 4: Genetical aspects of behavior	
13.	Unit 4: Ecological aspects of behavior	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –**6th Semester (NONCBCS)**

Name of the Paper - **ZooMT- 603: Molecular Biology and Immunology**

Units Assigned – Unit 3 and Unit 5

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit 3: Concept of transposons and plasmids	
2.	Unit 3: Regulation of gene expression in prokaryotes, operon concept (Lac operon)	
3.	UNIT 5: Clonal selection theory	
4.	Unit 5: Polyclonal and monoclonal antibodies	
5.	Unit 5: Major histocompatibility complex- structure and functions;	
6.	Unit 5: Major histocompatibility complex- structure and functions	
7.	Unit 5: Immune system in health and disease.	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –**6th Semester (NONCBCS)**

Name of the Paper - **ZooMT- 604: Biotechnology and Bioinformatics**

Units Assigned – Unit 1, Unit 2 and Unit 3

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit 1: Introduction, history and scope, basic knowledge of genetic engineering	
2.	Unit 1: Protoplast fusion and somatic hybridization technique	
3.	Unit 1: Protoplast fusion and somatic hybridization technique	
4.	Unit 2: DNA sequencing	
5.	Unit 2: DNA sequencing	
6.	Unit 2: Human genome project.	
7.	Unit 3: Methods of sequence alignment	
8.	Unit 3: Methods of sequence alignment	
9.	Unit 3: Phylogenetic analysis: basic concept, steps in evaluation of phylogeny	
10.	Unit 3: Constructing Phylogenetic trees	

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Course Plan

Name of the Teacher- Dr. Moni Kankana Kalita

Course –Honours / Generic – Honours

Class/Semester –**6th Semester (NON CBCS)**

Name of the Paper - **ZooMT- 606: Economic Zoology**

Units Assigned – Unit 5

Marks Assigned – 12 out of 48

Class	Topic/ Unit	Remarks
1.	Unit 5: Piggery: management and practices of pig rearing;	
	Unit 5: Piggery: management and practices of pig rearing;	
2.	Unit 5: Poultry: selection of breed (chicken and duck) and their scientific rearing methods;	
	Unit 5: Poultry: selection of breed (chicken and duck) and their scientific rearing methods;	
3.	Unit 5: Poultry: selection of breed (chicken and duck) and their scientific rearing methods;	
4.	Unit 5: Poultry: selection of breed (chicken and duck) and their scientific rearing methods;	
5.	Unit 5: Poultry: selection of breed (chicken and duck) and their scientific rearing methods;	
6.	Unit 5: Poultry: selection of breed (chicken and duck) and their scientific rearing methods;	
7.	Unit 5: Poultry diseases and its prevention/control.	
8.	Unit 5: Poultry diseases and its prevention/control.	