PROGRAMME SPECIFIC OUTCOME OF B.A IN ASSAMESE

On completion of the programme, students will be able to :

understand assamese literature, language and culture

develope skill to narrate,judge,translate, interpret and analyze literature in a better and effective way in assamese .

develope their inbuilt creativity and proficiency in both the formal and informal communication .

COURSE OUTCOME OF B.A 1st SEMESTER ASSAMESE

COURSE CODE : AECC

Communicative Assamese

After undergoing this course, the student will be able to

Communicate effectively in Assamese

Course code :c1 : History of assamese literature (from the beginning to the post-sankarite period)

After undergoing this course, a student will be able to

describe development of assamese literature since the beginning till post sankarite period.

catagorize assamese literature developed in different periods .

define oral-literature.

Course outcome of BA 1st semester assamese (honours)

Course code :c2 History of assamese literature (from the period of arunodoi to the post war period)

after undergoing this course, a student will be able to

describe development of assamese literature since the advent of britishes till post war period.

explain socio-political scenario that shaped the assamese literature in the given period .

identify literary trends of the assigned periods.

COURSE OUTCOME OF B.A 1st SEMESTER ASSAMESE

COURSE CODE : GE1

Folk Performing Arts

AFTER UNDERGOING THIS COURSE, A STUDENT WILL BE ABLE TO

Define Folk Performing Arts

Describe some selected forms of Folk Performing Arts prevalent in Assam.

Course outcome of b.a 2nd semester assamese (honours)

course code :c3: introduction to the linguistic study

upon completion of the course, a student will be able to

define language and linguistic study .

describe historical background of linguistic study in west and east.

Course outcome of b.a 2nd semester assamese (honours)

course code :c4 :poetics.

upon completion of the course, a student will be able to

define literatary theories of west and east.

to interpret indian theories on literature , metre, prosody and rhetoric

COURSE OUTCOME OF B.A 2nd SEMESTER ASSAMESE

COURSE CODE : GE2

Teaching of Assamese Literature.

Credit :6

AFTER UNDERGOING THIS COURSE, A STUDENT WILL BE ABLE TO

Apply different methodologies in respect of Teaching of Assamese Literature.

COURSE OUTCOME OF B.A. 3RD SEMESTER ASSAMESE (HONOURS)

course code :c5 : literary criticism.

upon completion of the course, a student will be able to

define literature and various literary genres

to estimate any given piece of literature using different judgemental tools.

COURSE OUTCOME OF BA 3RD SEMESTER ASSAMESE (HONOURS)

course code :c6 : study of assamese poetry.

credit :6

upon completion of the course, a student will be able to

state history of assamese poetry

analyze trend in assamese poetry in a given period

illustrate any literary text in assamese composed in poetic form. .

COURSE OUTCOME OF BA 3RD SEMESTER ASSAMESE (HONOURS)

course code :c7 : study of culture and assamese culture.

credit :6

upon completion of the course, a student will be able to

define culture.

describe assimilation in assamese culture.

distinguish arts,beliefs, traits and trends in assamese culture.

COURSE OUTCOME OF B.A 3RD SEMESTER ASSAMESE

COURSE CODE :GE3

Teaching of Assamese Language

Credit:6

UPON COMPLETION OF THE COURSE, A STUDENT WILL BE ABLE TO

Use Assamese Language effectively in writing.

Speak Assamese Language properly.

COURSE OUTCOME OF B.A 4TH SEMESTER ASSAMESE (HONOURS)

course code :c8 : theory and practice of comparative literature

credit :6

upon completion of the course, a student will be able to

define comparative literature

describe origin and development of comparative literature.

describe relevance of cl in the perspective of indian and assamese literature.

COURSE OUTCOME OF B.A 4TH SEMESTER ASSAMESE (HONOURS)

course code : c9 : indo-aryan language and assamese language

credit :6

upon completion of the course, a student will be able to

outline the origin and development of indo-aryan language family

study comparatively some grammatical notices of sanskrit, pali & prakrit

practise interpreting some selected texts of sanskrit, pali & prakrit

#describe origin and development of assamese language.

COURSE OUTCOME OF B.A 4TH SEMESTER ASSAMESE (HONOURS)

course code :c10 : selection from assamese prose

credit :6

by the end of the course, a student will be able to

describe evolution of assamese prose through various stages

identify different types of prose in assamese literature.

analyze any given prose style.

COURSE OUTCOME OF B.A 4th SEMESTER ASSAMESE

COURSE CODE :GE4

Sociology of Literature

Credit:6

UPON COMPLETION OF THE COURSE, A STUDENT WILL BE ABLE TO

Acquaint himself/herself with newly developed interdisciplinary discipline Sociology of Literature

Study Literature in Sociological Perspective.

COURSE OUTCOME OF B.A 5TH SEMESTER ASSAMESE (HONOURS)

course code :c11 : assamese drama.

credit :6

by the end of the course, a student will be able to

sketch the evolution of assamese drama through different ages.

discuss about variuos trends observed in assamese drama in different socio-political perspectives of the state

COURSE OUTCOME OF BA 5TH SEMESTER ASSAMESE (HONOURS)

course code: c12 : studies on assamese linguistic .

credit :6

upon completion of the course, a student will be able to

aquant themselves with phonology, phonetics & phonemics

study assamese phonology and morphology.

analyse semantic feature of assamese language

COURSE OUTCOME OF B.A 5TH SEMESTER ASSAMESE (HONOURS)

course code : dse1

Assamese grammar , lexicon and idiomatic usages

by the end of the course, a students will be able to

acquaint themselves with proper pronunciation, grammatical rules, spelling, idiomatic usages , different aspect of technological terms and lexicon of assamese language.

COURSE OUTCOME OF B.A 5th SEMESTER ASSAMESE (Honours)

COURSE CODE : DSE2

Introduction to Indian Literature

Credit :6

By the end of the course, a students will be able to

Acquaint themselves with Indian Literature

Introduce themselves with uniqueness and singleness of Indian literature manifested through different languages.

COURSE OUTCOME OF B.A 6TH SEMESTER ASSAMESE (HONOURS)

course code :c13 : selection from assamese prose

credit :6

by the end of the course, a student will be able to

describe trends of modern assamese prose .

identify different types of prose in creative writings in assamese.

analyze any given prose style.

COURSE OUTCOME OF B.A 6th SEMESTER ASSAMESE (HONOURS)

course code :c14 : language and script of assam.

credit :6

by the end of the course, a student will be able to

classify different languages and dialects of assam.

describe existance of linguistic elements of non-aryan languages in assamese language.

specify charcteristics of assamese language and its dialects

identify different scripts prevalent in assam and characteristics thereof

COURSE OUTCOME OF B.A 6th SEMESTER ASSAMESE (Honours)

COURSE CODE : DSE3

Introduction to World Literature

Credit :6

Upon completion of the course, a students will be able to

Define World Literature

Explain world Literature in the perspective of Global Scenario through some selected Masterpiece

COURSE OUTCOME OF B.A 6th SEMESTER ASSAMESE (Honours)

Course Code : DSE 4(A)

SPECIAL AUTHOR

Credit :6

By the end of the course, a student will be able to

Distinguish the standing of a specific author in the history of literature.

Explain life and literature of the specific author he/she has chosen to study.

COURSE OUTCOME OF B.A 6th SEMESTER ASSAMESE (Honours)

Course Code : DSE 4(A)

SPECIAL AUTHOR

Credit :6

By the end of the course, a student will be able to

Define Research

Acquaint himself/herself with the process and methodologies of research

Prepare a research Project

Department of Bengali
MDKGirls' College, Dibrugarh, Assam

Bengali (UG Level)

Programme Specific Outcome

1. Knowledge and understanding about the basic history and development of Bengali Literature.
2. Knowledge and understanding the skills of Creative Writing.
3. Knowledge and understanding about the poetry, prose, drama, novel, short story, essay etc.
4. Expect to develop the knowledge about the concept of journalism.
5. Expect to develop the skills of translation.
6. To develop the knowledge of the different aspects of Bengali grammar& linguistics.
7. Understand the wide range of cultural heritage of Bengali People.
8. To identify various academic and professional areas.

Course Outcome

Bengali (MIL)

 # Prose and Literary Discourse: To make students aware about the process of development of Bengali prose through the writings of different Bengali renowned literary activists.

#Literary Journals: To create a sense about the history of literary journals of 19^{th} century and its contributions to the Bengali Literature.

Poetry and Poetic Works: To make students aware about the realm of poetry of distinguished Bengali Poets.

Generic Elective (1st Semester)

Report Writing and Uses of Technical Terminology: To give an idea about the writing techniques to write a report in different situations. To apply terminology in various aspects of literature, science, religion, culture, economy, business etc. To give importance on electronic media, social media, internet and computer application.

Translation: Uses and Practice – To create a sense of importance of translation and its different aspects. To give a practical knowledge to translate Bengali from English and Assamese language.

Bengali Orthography and its Uses: To give an idea of logical sequence of spelling, to make Sandhi (blending of words), concept of vowel and consonant, to correct the error correction etc.

Concept of Industries of Assam: To develop the knowledge about the cottage industries of Assam (weaving, clay tea, bamboo and cane industries)

Generic Elective (2nd Semester)

 # Mass Media: Editing Skill—To give practical knowledge of using language in news writing and advertisement. To develop the idea of different stages &sign of proof reading .

Skill of Writings of Official Letters : To acquire the knowledge of writing application for job, business letter, bank and insurance sectors. To develop the ability of writing notice, felicitation letter, invitation letter, leaflets.

Essay Writing: To enhance the skill of essay writing in different like literature, society, culture, business, economics, politics and science.

Writing Skills: To develop the skill of writings about proceedings of different types of meetings.

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Department of Botany

Programme : B.Sc. Botany

Programme Outcome:

After successful completion of three year degree program in Botany a student is able to:

1. Apply the scientific method to questions in biology by formulating testable hypotheses, gathering data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses.
2. Access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.
3. Demonstrate proficiency in the experimental techniques and methods of analysis appropriate for their area of specialization within biology.
4. Identify, formulate and analyze the complex problems with reaching a substantiated conclusion.
5. Create, select and apply appropriate techniques, resources and modern technology in multidisciplinary way.
6. Assimilate knowledge and ideas based on wider reading and through the internet.
7. Understand the evolving state of knowledge in the rapidly developing science of biology.
8. Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
9. Appreciate the contributions of the scientific community and to develop a deep sense of research aptitude.

Program Specific Outcome:

1. Understanding of plant systematic, evolution, ecology, developmental biology, physiology, biochemistry and plant interactions with microbes and insects.
2. Describe morphological & reproductive characters of plant and also identified different plant families and classification.
3. Understanding of various analytical techniques of plant sciences as well as use of plants as industrial resources or as human livelihood support system.
4. Design solutions from medicinal plants for health problems, disorders and disease of human beings and estimate the chemical content of plants which meet the specified needs to appropriate consideration for the public health.
5. Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany.
6. Understand the impact of the plant diversity in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
7. Understand the various life forms of plants, morphology, anatomy, reproduction, genetics, and molecular biology and the importance of each life form.
8. Understand the modern tools such as recombinant DNA technology, transgenic technology and use of bioinformatics tools and databases and the application of statistics to biological data for the development of a better society.
9. Inculcate strong fundamentals on modern and classical aspects of Botany.

Course outcomes for Botany Core (Honours)

Course code and title	Course outcome
SEMESTER I	
BC101T: Core course-I Microbiology and Phycology	1) Learn about the structure, pigmentation, food reserves and methods of reproduction of Algae 2) Analyze systematics, morphology, structure and reproduction of Bacteria and Viruses 3) Recognize useful and harmful activities of Bacteria,Viruses and Algae.
BC101P: Core Course-I Practical Microbiology and Phycology	1) Perform gram staining of bacteria 2) Study different structural forms of bacteris 3) Dissect and study the vegetative and reproductive structure of different algae. 4) Identify permanent slides of algae
BC102T: Core course-II Biomolecules and Cell Biology	1) Know the chemical nature of biomolecules. 2) Understand the different types of interaction in Biomolecules. 3) Explain the mechanism of enzyme action 4) Differentiate between prokaryotic and eukaryotic cell 5) Explain the structure of Cell components and their functions. 6) Describe cell division in plants.
BC102P: Core Course-II Practical Biomolecules and Cell Biology	1) Demonstrate skills to detect carbohydrates, proteins and lipids. 2) Perform experiments to count cells and measure cell size. 3) Demonstrate the phenomenon of plasmolysis and deplasmolysis. 4) Illustrate the stages of mitosis through temporary slides. 5) demonstrate protoplast streaming.

SEMESTER II	
BC203T: Core course-III Mycology and Phytopathology	1) Learn about the structure, pigmentation, food reserves and methods of reproduction of Fungi and Lichen 2) Recognize the useful and harmful activity of Fungi and Lichen 3) Identify various diseases of crop plants. 4) Effectively give suggestions for control of crop diseases.
BC203P: Core Course-III Practical Mycology and Phytopathology	1) Dissect and study the vegetative and reproductive structure of different fungus. 2) Recognize different types of lichens 3) Study of Plant disease symptoms caused by Bacteria, Virus and Fungi.
BC204T: Core course-IV Archegoniate	1) Identify morphological diversity of Bryophytes, Pteridophytes and Gymnosperms. 2) Explain plant adaptation to land habit. 3) Recognize ecological and economic importance of Bryophytes, Pteridophytes and Gymnosperms. 4) Understand the stellar evolution and seed formation habit in pteridophytes.
BC204P: Core Course-IV Practical Archegoniate	1) Dissect and study the vegetative and reproductive structure of different Bryophytes 2) Dissect and study the vegetative and reproductive structure of different Pteridophytes 3) Dissect and study the vegetative and reproductive structure of different Gymnosperms 4) Identify permanent slides of archegoniate
SEMESTER III	
BC305T: Core course-V Anatomy of Angiosperms	1) Develop knowledge on organization of different types of tissues, theories of roots and

	shoots. 2) Understand the normal and anomalous secondary growth in plants and their causes. 3) Understanding of internal organisation of plants, ecological interpretations, pharmacognosy and wood identification.
BC305P: Core Course-V Practical Anatomy of Angiosperms	1) Identify different types of plant tissues. 2) Identify different stomatal types 3) Identify glandular and non-glandular trichomes 4) Enumerating the internal primary structure of dicotyledonous root, stem and leaf. 5) Enumerating the internal primary structure of monocotyledonous root, stem and leaf.
BC306T: Core course-VI Economic Botany	1) Understand the scope of economic botany. 2) Outline Vavilov's centre of origin of cultivated crops. 3) Know about various cereals, legumes, spices, beverages and oil yielding crop plants and their economic importance. 4) Know the botanical resources like non wood forest products
BC306P: Core Course-VI Practical Economic Botany	1) Demonstrate skills to perform microchemical tests. 2) Identify various medicinal plants and their parts used for curing diseases. 3) Identify various crop plants and their uses.
BC307T: Core course-VII Genetics	1) Understand the Mendelian and non Mendelian genetics. 2) The nature and function of genes, processes of inheritance. 3) Describe linkage,crossing over and mutations. 4) Know about sex linked inheritance,

	chromosomal aberrations.
BC307P: Core Course-VII Practical Genetics	1) Learn pedigree analysis for dominant and recessive autosomal and sex linked traits. 2) Demonstrate mendel's laws through seed ratios. 3) Perform chromosome mapping.
SEMESTER VI	
BC408T: Core course-VIII Molecular Biology	1) Know about the genomic organization or living organisms, study of genes genome, chromosome etc. 2) Gain knowledge about the mechanism and essential component required for prokaryotic DNA replication. 3) Understand the processing and modification of RNA and translation process, function and regulation of expression. 4) Illustrate the molecular mechanism of protein synthesis.
BC408P: Course-VIII Practical Molecular Biology	1) Preparation of LB culture media 2) Isolate and estimate DNA and RNA
BC409T: Core course-IX Plant Ecology & Phytogeography	1) Learn basic concepts of ecology. 2) Analyze humans impacts on organisms, populations, communities and ecosystems 3) Evaluate the relationship between abiotic and biotic factors in ecosystems. 4) Interpret the dynamics of phytogeography. 5) Categorize the vegetation over the globe
BC409P: Course-IX Practical Plant Ecology & Phytogeography	1) Describe various instruments used in ecological survey 2) Determination of pH of soil and water 3) Determination of organic matter, bulk density, porosity and rate of infiltration of various soil types

	3) Perform quadrate study of different habitats 4) Analyze the morphological adaptations of hydrophytes and xerophytes
BC410T: Core course-X Plant Systematics	1) Demonstrate the main features of different classification keys. 2) Evaluate modern approaches in taxonomic studies. 3) Understand taxonomic evidences from molecular, numerical and chemicals. 4) Analyze the families of angiosperms.
BC410P: Core course-X Plant Systematics	1) Compare the families of Angiosperms. 2) Illustrate and dissect, draw and describe angiospermic plants 3) Demonstrate the technique of herbarium for conservation of plants.
SEMESTER V	
BC511T: Core course-XI Reproductive Biology of Angiosperms	1) Understand structure and development in microsporangium and megasporangium. 2) Understand microsporogenesis and megasporogenesis. 3) Understand male & female gametophytes. 4) Know fertilization, endosperm and embryogeny. 5) Know about the polyembryon, apomixes, parthenogenesis
BC511P: Core Course-XI Practical Reproductive Biology of Angiosperms	1) Know about the Structure and development of dicot and monocot embryos. 2) Demonstrate the structure of anther and pollen 3) Calculation of percentage germination of pollen
BC512T: Core course-XII Plant Physiology	1) Relate plant-water relationships through various physiological processes. 2) Understand the plant movements.

	3) Explain the role of micro nutrients in plant growth and development. 4) Identify growth and growth regulator in plants 5) Describe the mechanism of flowering.
BC512P: Core course-XII Practical Plant Physiology	1) Determination of osmotic and water potential. 2) Calculate the stomatal frequency and stomatal index. 3) Study the effect of wind velocity and light on the rate of transpiration 4) Study the induction of amylase activity in germinating barley seeds.
BD501T: Discipline Specific Elective -1 DSE-1: Analytical Techniques in Plant Sciences	1) Gain skill on working principles of different types of microscopes 2) Describe the techniques of cell fractionation, spectrophotometry and X-ray crystallography 3) Understand the principle and working mechanism of different chromatography methods 4) Demonstrate understanding of statistical issues arising in biological research
BD501P: Discipline Specific Elective -1 Practical	1) Study of bolting techniques 2) Demonstration of ELISA 3)Estimate protein by various methods 4) Perform different separation techniques 5) Prepare double staining permanent slides
BD502T: Discipline Specific Elective -2 DSE-2: Bioinformatics	1) Learn the basics about bioinformatics 2) Explain about the methods to characterise and manage the different types of Biological data 3) Understanding the methodologies used for database searching, and determining the accuracies of database search.
BD502P: Discipline Specific Elective -2	1) Use and develop bioinformatics programs for

Practical	comparing &analyzing biological sequence data to identify probable function. 2) Introduction to nucleotide and protein sequence analysis packages
BD503T: Discipline Specific Elective -3 DSE-3: Research Methodology	1) Understand a general definition of research design. 2) Design a good quantitative purpose statement and good quantitative research questions and hypotheses. 3) Recognize the importance of planning and preparation required to undertake a research project.
BD503P: Discipline Specific Elective -3 Practical	1) Learn how to prepare posters on defined topics 2) Develop an ability to effectively communicate knowledge in a scientific manner.
BD504T: Discipline Specific Elective -4 DSE-4: Industrial and Environmental Microbiology	1) Assimilate knowledge on industrially important microbes 2) Gain knowledge on factors influencing fermentation process 3) Understand the applications & Microbial production of Antibiotics 4) Attain information on Biodeterioration. 5) Obtain knowledge on Microorganism inhabiting extreme environments.
BD504P: Discipline Specific Elective -4 Practical	1)Perform cleaning & sterilization of glassware's 2) Prepare and cultivate bacteria in different types of media.
SEMESTER VI	
BC613T: Core course-XIII Plant Metabolism	1) Understand about the ways plants use light to assimilate atmospheric carbon dioxide to support life on this planet.

	2) Understand the process of carbohydrate and lipid metabolism. 3) Understand the process of respiration and ATP synthesis 4) Understand the ability of plants to uptake, transport and assimilate nitrogen
BC613P: Core Course-XIII Practical Plant Metabolism	1) Perform different experiments to study the process of photosynthesis 2) Demonstrate activity of Nitrate reductase in germinating leaves of different plant sources. 3) Demonstration of fluorescence and absorption spectrum. 4) Perform experiments related to respiration in different parts of plant body.
BC614T: Core course-XIV Plant Biotechnology	1) Understand the principle and basic protocols for Plant Tissue Culture. 2) Understand the fundamentals of Recombinant DNA Technology. 3) Identify various natural and artificial ways to propagate plants to increase genetic variety or maintain the genetic composition. 4) Identify the various application of biotechnology.
BC614P: Core Course-XIV Practical Plant Biotechnology	1) Identify various methods for isolation of protoplast 2) Demonstrate *in-vitro* sterilization techniques. 3) Construct restriction map.
BD605T: Discipline Specific Elective -5 DSE-5: Plant Breeding	1) Understand the science of plant breeding. 2) Acquire basic knowledge of conventional and non-conventional methods of plant breeding. 3) Understand exploitation of Heterosis, hybrid and variety development and their release through artificial hybridization. 4) Formulate and justify a plan for the

	application of plant breeding methods to achieve a specific objective.
BD605P: Discipline Specific Elective -5 Practical	1) Study the techniques of Hybridization in Self Pollinated and Cross Pollinated Crops. 2) Study of pollen morphology and viability. 3) Study of purity of seeds from commercial seed samples.
BD606T: Discipline Specific Elective -6 DSE-6: Natural Resource Management	1) Define natural resources 2) Identify soil types and ways to modify soil structure and drainage to reduce erosion and improve water quality and water availability to plants. 3) Apply knowledge to solve problems related to natural resources. 4) Understand contemporary practices in resource management.
BD606P: Discipline Specific Elective -6 Practical	1) Calculation and analysis of ecological footprint. 2) Collection of data on forest cover of specific area. 3) Estimation of solid waste and its impact on land degradation.
BD607T: Discipline Specific Elective -7 DSE-7: Horticultural Practices and Post-Harvest Technology	1) Understand scope, importance & disciplines of horticulture. 2) Acquire theoretical knowledge on horticultural techniques 3) Discuss post harvest technology 4) Identify and use control measures to control plant diseases. 5) Conserve and manage horticultural crops
BD607P: Discipline Specific Elective -7 Practical	1) Preparation of organic manures and bonsai 2) Acquire practical knowledge on horticultural techniques..

BD608T: Discipline Specific Elective -8 DSE-8: Biostatistics	1) Explain the logic behind statistical confidence intervals and hypothesis tests. 2) Choose and apply appropriate statistical methods for analyzing one or two variables. 3) Use technology to perform descriptive and inferential data analysis for one or two variables. 4) Interpret statistical results correctly, effectively, and in context.
BD608P: Discipline Specific Elective -8 Practical	1) Calculation of measures of central tendency 2) Calculation of measures of dispersion 3) Finding out probability values

Course outcomes for Botany Generic Elective

Course code and title	Course outcome
SEMESTER I	
BG101T: Generic Elective -1 Theory	1) Learn about the diversity of plants 2) Identify the various groups of plant and their economic and ecological significance. 3) Acquire basic knowledge about the microbial world. 4) Understand the vegetative and reproductive structures of Algae, Fungi, lichen, Bryophyte, Pteridophytes and Gymnosperms
BG101P: Generic Elective -1 Practical	1) Identify various groups of plants through permanent slides. 2) Demonstrate gram staining technique 3) Dissect and study the vegetative and reproductive structures of Algae, Fungi, Bryophytes, Pteridophytes and Gymnosperms
SEMESTER II	
BG202T: Generic Elective -2 Theory	1) Understand plant & water relation 2) Understand process of photosynthesis, C_3 , C_4, CAM pathways. 3) Explain the mechanism of respiration 4) Identify growth and growth regulator in plants 5) Describe the mechanism of flowering.
BG202P: Generic Elective -2 Practical	1) Demonstrate the process of photosynthesis 2) Determine the rate of respiration. 3) Determine the rate of transpiration 4) Demonstrate the process of plasmolysis and deplasmolysis.
SEMESTER III	
BG303T: Generic Elective -3 Theory Economic Botany and Biotechnology	1) Assess the economic uses of plants in modern society. 2) Understand the principle and basic protocols for Plant Tissue Culture. 3) Understand the fundamentals of Recombinant DNA Technology.

BG303P: Generic Elective -3 Practical Economic Botany and Biotechnology	1) Perform microchemical tests to detect carbohydrates, proteins and lipids in plant materials. 2) Demonstrate different techniques used in biotechnology
SEMESTER IV	
BG404T: Generic Elective -4 Theory Plant Ecology and Taxonomy	1) Demonstrate a fundamental knowledge of environment 2) Demonstrate knowledge of interaction between plants and the abiotic and biotic environment. 3) Develop abilities to think critically about pollution. 4) Demonstrate the main features of different classification keys. 5) Outline the different systems of classification
BG404P: Generic Elective -4 Practical Plant Ecology and Taxonomy	1) Describe various instruments used in ecological survey 2) Determination of pH of soil and water 3) Determination of organic matter, bulk density, porosity and rate of infiltration of various soil types 4) Dissect and describe the floral organs of angiospermic flowers 5) Demonstrate the technique of herbarium for conservation of plants.

Course outcomes for Botany Skill Enhancement Courses

Course code and title	Course outcome
SEMESTER III	
BS301:Skill Enhancement Course-1 Biofertilizers	1) Learn the characteristics, identification, cultural methods and maintenance of Azospirillum, Azotobacter, Azolla and Anabaena. 2) Know about Mycorrhiza – VAM association, types, occurrence, collection, isolation and inoculum production. 3) Understand the method of large scale production of biofertilizer & Organic farming
SEMESTER IV	
BS402:Skill Enhancement Course-2 Mushroom Culture Technology	1) Identify edible and poisonous mushrooms 2) Develop skills for the preparation of bed for mushroom cultivation and spawn production 3) Gain the knowledge of cultivation of different types of edible mushroom and spawn production 4) Manage the diseases and pests of mushrooms

PROGRAMME OUTCOME OF B.Sc. COURSE IN CHEMISTRY

- Understanding the impact of sustainable development along with environmental impact.
- Cultivate language skills for reporting, presentation and designing documents.
- To understand the interdisciplinary nature of chemistry and to integrate knowledge of mathematics, physics and other disciplines to a wide variety of chemical problems.
- To learn professionalism, including the ability to work in teams and apply basic ethical principles.
- Ability to generate confidence for appearing competitive examinations and qualify them.

PROGRAMME SPECIFIC OUTCOME OF B.Sc. COURSE IN CHEMISTRY

- To provide a broad foundation in chemistry that stresses scientific reasoning and analytical problem solving with a molecular perspective.
- Ability to handle chemicals safely through their theoretical knowledge on specific characteristics and properties of organic and inorganic materials.
- To learn the laboratory skills needed to design, safely conduct and interpret chemical research.
- Acquiring sufficient knowledge on clean and safe methods for synthesis of useful industrial materials following the rules of environment.

COURSE OUTCOME OF 1st SEMESTER CHEMISTRY (CORE)

Course No: CHEMISTRY C-101

(Inorganic Chemistry)

Outcome: The students will acquire knowledge about some basic concepts of inorganic chemistry such as

1. The structure of atom, detailed discussion of different properties of elements.
2. Study about the different types of chemical bonding in a molecule and oxidation-reduction reaction.

Course No: CHEMISTRY C-101-LAB

(Inorganic Chemistry)

Outcome: In the practical students will learn how to calibrate and use of apparatus for volumetric analysis, performing quantitative analysis for acid-base and redox titrations.

Course No: CHEMISTRY-C-102

(Physical Chemistry)

Outcome: In this course the students will learn about detailed physical states of matter

1. Gaseous states of matter, behaviour of real gases and deviation from ideal gas.
2. Liquid states of matter and different properties of liquid like surface tension, viscosity, vapour pressure and solid state of matter
3. Ionic equilibria, factors affecting this equilibrium.

Course No: CHEMISTRY-C-102-LAB

(Physical Chemistry)

Outcome: In the laboratory the students will perform experiments to study the variation of various liquids to determine surface tension, viscocity, pH metric titration of different solutions.

COURSE OUTCOME OF 2nd SEMESTER CHEMISTRY (CORE)

Course No: CHEMISTRY-C-201

(Organic Chemistry)

Outcome: In this paper students will learn about

1. Some basic concepts of organic chemistry, energy profile diagrams of a reaction.
2. Representation of organic molecule its stereochemistry, optical activity.

3. Reactions and properties of aliphatic hydrocarbons such as alkane, alkenes, cycloalkane and aromatic hydrocarbons.

Course No: CHEMISTRY-C-201-LAB

(Organic Chemistry)

Outcome: In the laboratory students will learn about various experiments related to organic chemistry as - purification of organic compounds, principle of paper chromatography and TLC and carry out the chromatographic process for separation of mixtures such as amino acids and aminophenol.

Course No: CHEMISTRY-C-202

(Physical Chemistry)

Outcome: In this paper students will learn about

1. The concepts of chemical thermodynamics, dependance of thermodynamic parameters on composition etc.
2. Chemical equilibria, criteria for thermodynamic equilibria.
3. Solutions and colligative properties, its thermodynamic derivation.

Course No: CHEMISTRY-C-202-LAB

(Physical Chemistry)

Outcome: In practical the students will carry out different experiments on thermochemistry such as determination of heat capacity of a calorimeter, determination of enthalpy of a ionization, hydration etc.

COURSE OUTCOME OF 3rd SEMESTER CHEMISTRY (CORE)

Course no: CHEMISTRY-C-301

(Inorganic Chemistry)

Outcome: After completion of this cousre students will be able to understand the following

1. General principles of metallurgical process in the industrial chemistry
2. Concepts of acids and bases and their Principles
3. Behavior of s and p block elements and their compounds
4. Nobles gases and their compounds
5. Some important inorganic polymers

Course no: CHEMISTRY-C-301-LAB

(Inorganic Chemistry)

Outcome: In this practical course you will learn about Iodo /Iodimetric tittration and preparations.

Course no: CHEMISTRY-C-302

(Organic Chemistry)

Outcome: In this course students will learn and understand the following

1. Chemistry of halogenated compounds
2. Alcohols , phenols, ether and epoxides their prepataion, chemical reactions etc.
3. Carbonyl complouns some reactions and mechanisms
4. Carboxylic acid and their derivatives preparation , reaction etc
5. Study of sulphur containing compounds

Course no: CHEMISTRY-C-302-LAB

(Organic Chemistry)

Outcome: In this course you will learn about organic preparation of some amines and Nitration of some compounds.

Course no: CHEMISTRY-C-303

(Physical Chemistry)

Outcome: In this course students will learn

1. Concepts of phases, three component system
2. Chemical kinetics different order rections their relations
3. Catalysis and surface chemistry

Course no: CHEMISTRY-C-303-LAB

(Physical Chemistry)

Outcome: After completion students will learn about determination of critical solution temperature, Study of kinetics of some reactions and adsorption isotherm.

COURSE OUTCOME OF 4th SEMESTER CHEMISTRY (CORE)

Course no: CHEMISTRY-C-401

(Inorganic Chemistry)

Outcome: After completion of this course students will learn the following

1. Coordination chemistry: Theory to application
2. Transition elements their trends and chemistry
3. F block elements and Bio-inorganic chemistry

Course no: CHEMISTRY-C-401-LAB

(Inorganic Chemistry)

Outcome: In this course students will learn about gravimetric and inorganic preparation.

Course no: CHEMISTRY-C-402

(Organic Chemistry)

Outcome: In this paper you will learn about

1. N containing functional groups and their chemistry
2. Polynuclear aromatic hydrocarbon
3. Hetero cycles, alkaloids, terpens their introduction to chemical reactions

Course no: CHEMISTRY-C-402-LAB

(Organic Chemistry)

Outcome: In this paper you will learn about detection of elements , functional groups and qualitative analysis

Course no: CHEMISTRY-C-403

(Physical Chemistry)

Outcome: In this course students will learn the following

1. Conductance some theories and applications
2. Electrochemistry theory and applications
3. Electrical and magnetical properties of atoms and molecules

Course no: CHEMISTRY-C-403-LAB

(Physical Chemistry)

Outcome: After completion of this students will learn about conductometry and potentiometry lin different systems.

COURSE OUTCOME OF 5th SEMESTER CHEMISTRY (CORE)

Course No: CHEMISTRY C-501

(Organic Chemistry)

Outcome:

1. Students will learn about Nucleic acids, Amino acids and lipids.

2. They will get an idea about enzymes and their functions as catalyst, Pharmaceutical compounds: Structure and Importance.
3. They will learn to define Antipyretics, Analgesic, Antimalerials, Antacids, Antibacterial, chloramphenicol and their synthesis methods.
4. Gets an elementary idea about disconnection approach including description of synthons and synthetic equivalent.

Course No: CHEMISTRY C-501-LAB

(Organic Chemistry)

Outcome: In the laboratory methods students will learn about various experiments related to organic chemistry including estimation, titration, saponification along with isolation and characterization of DNA.

Course No: CHEMISTRY C-502

(Physical Chemistry)

Outcome**:** The students will acquire knowledge on

1. Quantum mechanics with special reference to classical mechanics and chemical bonding.
2. Elaborate and descriptive knowledge about the priciples and applications of Molecular Spectroscopy which includes rotational, Vibrational, Raman, Nuclear Magnetic Resonance, Electron spin resonance and electronic spectroscopy.
3. Various electromagnetic radiations and photochemical reactions and their role in biochemical reactions.

Course No: CHEMISTRY C-502-LAB

(Physical Chemistry)

Outcome**:** In the laboratory methods students will learn to handle UV spectrophotometer and study absorbance, pH dependence and record the spectra. Colorimetric experiments will also be taught and its application in photochemical laws, kinetics and quantitative experiments.

COURSE OUTCOME OF 6th SEMESTER CHEMISTRY (CORE)

Course No: CHEMISTRY C-601

(Inorganic Chemistry)

Outcome: In this paper students will learn about

1. Theoretical principles in qualitative analysis, classification and definition of organometallic chemistry

2. Ability to understand kinetics and mechanics in inorganic reactions and catalysis by organometallic compounds.

Course No: CHEMISTRY C-601-LAB

(Inorganic Chemistry)

Outcome**:** The students will develop laboratory skills needed to design, safely conduct and interpret chemical research and to analyze the samples qualitatively containing acid, basic and interfering radicals.

Course No: CHEMISTRY-C-602

(Organic Chemistry)

Outcome:

1. Gain knowledge about general principles of organic spectroscopy such as UV, IR, NMR, Mass spectroscopy.
2. They will have a clear idea on classification and biological applications of carbohydrates, detailed study about various types of dyes and their synthetic applications.
3. Learn about polymers including polymerization reactions along with their biodegradability.

Course No: CHEMISTRY-C-602-LAB

(Organic Chemistry)

Outcome: After completion of this practical course student will be able to detect elements (N, S and halogen) and functional groups in unknown organic samples, extraction of caffeine from tea leaves analysis of carbohydrates along with identification of simple organic compounds by spectroscopic methods.

COURSE OUTCOME OF 1st SEMESTER CHEMISTRY (GENERIC ELECTIVE)

Course No: CHEMISTRY-GE-101

Outcome: The students will learn about

1. The structure of atom, quantum numbers, electronic configurations of atoms.
2. To acquire knowledge of different types of chemical bonding present in a molecule and their structure.
3. To study about the basics of organic chemistry, its stereochemistry and about the reactions and properties of aliphatic hydrocarbons.

Course No: CHEMISTRY-GE-101-LAB

Outcome: In the laboratory students will learn about various experiments related to organic and inorganic chemistry as- quantitative inorganic analysis, detection of elements (N,S, halogen) in an organic compound, principle of paper chromatography and carry out the chromatographic process for separation of mixtures such as amino acids and sugars.

COURSE OUTCOME OF 2nd SEMESTER CHEMISTRY (GENERIC ELECTIVE)

Course No: CHEMISTRY-GE-201

Outcome: The students will learn about

1. The concepts of chemical thermodynamics and equilibrium.
2. The preparations and reactions of organic compounds such as aromatic hydrocarbons, alkyl and aryl halides, phenols ethers and carbonyl compounds.

Course No: CHEMISTRY-GE-201-LAB

Outcome: In practical the students will carry out different experiments on determination of enthalpy of a reaction, pH measurement of different solutions, purification of organic compounds by crystallization (from water and alcohol) and distillation, melting and boiling point determination and preparations of some organic compounds.

COURSE OUTCOME OF 3rd SEMESTER CHEMISTRY(GENERIC ELECTIVE)

Course no: CHEMISTRY-GE-301

(Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II)

Outcome: after completion of this course you will learn

1. Thermodynamics ideal solution,phase miscibility of liquids
2. Phase equlibrium
3. Conductance (theory and application)
4. Electrochemistry of reversible and irreversible reactions
5. Carboxylic acid and their derivatives
6. Amines, carbohydaretes, amino acids and peptides

Course no: CHEMISTRY-GE-301-LAB

Outcome: In this course students will learn about phase eq and conductance measurements in diffrenet systems and systematic qualitative analysis.

COURSE OUTCOME OF 4th SEMESTER CHEMISTRY(GENERIC ELECTIVE)

Course no: CHEMISTRY-GE-401

(Transiton metals, Coordination Chemistry, States of Matter and Chemical Kinetics)

Outcome: In this course you will able to learn the following

1. d and f block elements their chemical reaction and applications
2. coordination chemistry theory and application
3. Kinetic Theory of gases
4. Liquids and solid states
5. Chemical kinetics theory and application

Course no: CHEMISTRY-GE-401-LAB

Outcome : In this course students will learn about semi micro analysis radicals and surface tenstion and viscocity measurements.

COURSE OUTCOME OF 3rd SEMESTER CHEMISTRY (SKILL ENHANCEMENT COURSE)

Course no: CHEMISTRY-SEC-301

(Basic Analytical Chemistry)

Outcome: After completion of this course students will learn the following

1. Analytical chemistry of water, food, soil
2. Chromatographic Technique
3. Ion exchange
4. Analysis of cosmetic
5. Some instrumetal demo

COURSE OUTCOME OF 4th SEMESTER CHEMISTRY (SKILL ENHANCEMENT COURSE)

Course no: CHEMISTRY-SEC-401

(Fuel Chemistry)

Outcome: In this course students will learn about various renewable and non-renewable energy sources suc as coal, petroleum ,petrochemical and lubricants.

COURSE OUTCOME OF 5th SEMESTER CHEMISTRY (DISCIPLINE SPECIFIC ELECTIVE COURSE)

Course No: CHEMISTRY- DSE-501

(Analytical Methods in Chemistry)

Outcome: The students will acquire adequate knowledge on

1. Qualitative and quantitative analytical techniques such as sampling, accuracy and precision; Thermal methods of analysis such as thermo gravimetry along with principles of instrumentation; Electro-analytical methods such as potentiometry and conductometry.
2. Students will learn about chromatographic techniques such as solvent extraction.
3. Detailed study about UV visible and infra-red spectrometry.

Course No: CHEMISTRY- DSE-501-LAB

(Analytical Methods in Chemistry)

Outcome: In the laboratory methods students will learn about chromatographic experiments, soil analysis and pH determination.

Course No: CHEMISTRY- DSE-502

(Green Chemistry)

Outcome: In this paper there are very clear discussions about-

1. Introduction to Green Chemistry and designing chemical synthesis by following principles of green chemistry.
2. They will learn about very common examples of green reactions including real world cases.
3. Discussion of some future trends in green chemistry.

Course No: CHEMISTRY- DSE-502-LAB

(Green Chemistry)

Outcome: This laboratory paper will help students to learn how to use environment friendly green methods using safer starting materials such as preparation of biodiesel from vegetable oils, solvent free and photochemical reactions.

COURSE OUTCOME OF 6th SEMESTER CHEMISTRY (DISCIPLINE SPECIFIC ELECTIVE COURSE)

Course No: CHEMISTRY- DSE-601

(Inorganic Materials of Industrial Importance)

Outcome:

1. Ability to understand detailed description about material chemistry in the field of chemistry such as glass, ceramics and cements. Focus has been given mainly on their manufacture and role in industrial purposes.
2. To elaborate the use of different types of fertilizers including their fertilizers, importance and working principle of some batteries, classification of alloys and their properties etc.
3. They will know about different types of surface coatings such as oil paints, modified oils, pigments etc.

Course No: CHEMISTRY- DSE-601-LAB

(Inorganic Materials of Industrial Importance)

Outcome: In this practical paper students will learn to determine and estimate acidity and elements in fertilizers, preparation of pigments, analysis of cement and metallic coating on ceramics.

Course No: CHEMISTRY- DSE-603

(Dissertation)

Project Work

Outcome: In this paper, a project work will be organized where the students will perform and experiment with certain laboratory works under the guidance of a faculty member.

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PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

Computer Science

As

Generic elective

PROGRAMME SPECIFIC OUTCOME OF B.SC. COMPUTER SCIENCE (GENERIC ELECTIVE)

PROGRAMME SPECIFIC OUTCOME OF B.SC IN COMPUTER SCIENCE(Generic Elective)

- UNDERSTAND THE BASIC CONCEPTS OF COMPUTER SCIENCE AND its DIFFERENT BRANCHES.
- STUDENTS WILL BE ABLE TO PROGRAM SMALL-TO-MID-SIZE PROGRAMS ON THEIR OWN.
- TO ATTRACT YOUNG MINDS TO THE POTENTIALLY RICH & EMPLOYABLE FIELD OF COMPUTER SCIENCE.
- STUDENTS WILL DEVELOP PROFESSIONAL SKILLS THAT PREPARE THEM FOR IMMEDIATE EMPLOYMENT AND FOR LIFE-LONG LEARNING IN ADVANCED AREAS OF COMPUTER SCIENCE AND RELATED FIELDS.
- APPLY FUNDAMENTAL PRINCIPLES AND METHODS OF COMPUTER SCIENCE TO A WIDE RANGE OF APPLICATIONS

COURSE OUTCOME OF 1ST SEMESTER COMPUTER SCIENCE (GENERIC ELECTIVE)

CSGE-101: COPMPUTER FUNDAMENTALS GENERIC ELECTIVE -(GE)

CREDIT :06

Course Objective

The course introduces to build basic concepts of computer science among students, focusing on basics such as different hardware and software of computer, memory ,computer organization and architecture and its various emerging technologies like big data ,data mining etc.

Course learning Outcomes:

At the end the student will be able to

- Understand general concepts about computer hardware, application software etc., computer architecture and organization, digital logic design, operating system
- Understand the basic components of a computer, including CPU, memories, and input output organization.
- Understand the cost performance tradeoff in designing memory hierarchy.
- Understand the latest emerging technologies such as cloud computing, mobile computing, big data analysis etc.
- UNITS: VII
- CREDIT:04
- MAX MARKS:66
- (IN-SEM-13,END SEM-53)
- LECTURES: 60L

PRACTICALS: COMPUTER FUNDAMENTAL LAB

At the end the student will have

- Practical Experiences based on MS office using document preparation.
- Understand and be able to organize files and documents on storage devices.
- Understand and can use various spreadsheet handling package for storing data and to perform preliminary analysis.
- UNITS: II
- CREDIT:02
- MAX MARKS:34
  - (IN-SEM-07, END SEM-27)
- LECTURES:60L

COURSE OUTCOME OF 2ND SEMESTER COMPUTER SCIENCE (GENERIC ELECTIVE)

CSGE201: INTRODUCTION TO DATABASE: GENERIC ELECTIVE -(GE)

CREDIT :06

Course Objective

The course introduces the concepts of database management systems to students, focusing on basics such as the importance and significance of a database, E-R Modeling, Relational data models for schema creation and normalization and structured query languages.

Course learning Outcomes:

At the end the student will be able to

- Understand database concepts and database management system Architecture.
- Understand Record storage and database users.
- Write queries in relational data model/SQL.
- Understand the SQL data definition and SQL query languages
- UNITS: IV
- CREDIT:04
- MAX MARKS:66
- (IN-SEM-13, END SEM-53)
- LECTURES:60L

PRACTICALS: INTRODUCTION TO DATABASE SYSTEM LAB

On successful completion of the course students will be able to

- Write SQL commands to create tables and indexes, insert, update, delete data, and query data in a relational DBMS.
- Create , insert ,modify ,update database through forms.
- Create report, data insertion, printing etc of database.
- Program a data-intensive application using DBMS APIs.

❖ **TOTAL** UNITS: V

❖ CREDIT:02

❖ MAX MARKS:34
  - (IN-SEM-07, END SEM-27)

❖ LECTURES:60L

OR

CSGE201: INTRODUCTION TO PROGRAMMING: GENERIC ELECTIVE -(GE)

TOTAL CREDIT : 06

Course Objective

This course is introduced to develop basic concept of programming and to build problem solving capability. It introduces both the flavor of object oriented and function oriented programming by using C and C++ language.

Course learning Outcomes:

At the end the student will be able to

- Understand basic concepts and difference between OOP and FOP.
- Understand arrays and function users.
- Understand and analyze any problem and derive its solution in the form of programming.
- Develop algorithms.
- Develop Ability to use different memory allocation methods.
- Develop ability to use features of OOP like class, polymorphism inheritance,
- UNITS: IV
- CREDIT:04
- MAX MARKS:66
- (IN-SEM-13, END SEM-53)
- LECTURES:60L

Practical: Introduction to C/C++ Programming Lab

On successful completion of the course students will be able to

- Gain experience about structured programming.
- Help students to understand the implementation of C /C++language.
- Understand various features in C and C++ languages.

❖ **TOTAL** UNITS: V

❖ LECTURES:60L

❖ CREDIT:02

❖ MAX MARKS:34
  - (IN-SEM-07, END SEM-27)

COURSE OUTCOME OF 3RD SEMESTER COMPUTER SCIENCE (GENERIC ELECTIVE)

CSGE301: MULTI MEDIA and APPLICATIONS -(GE)
CREDIT :06

Course Objective

This paper aims to provide comprehensive review of concepts and techniques for designing and developing attractive websites with multimedia components.

Course Learning Outcomes

On successful completion of the course, students will be able to:

- Understand the term multimedia, its types , component and uses ·
- Developed understanding of technical aspect of multimedia systems.
- Understand various file formats for audio, video and text media and animation.

- UNITS: VI
- CREDIT:04
- MAX MARKS:66
- (IN-SEM-13, END SEM-53)
- LECTURES:60L

PRACTICALS: MULTIMEDIA AND APPLICATION LAB

AT THE END THE STUDENT WILL BE ABLE TO

- Develop various Multimedia Systems applicable in real time.
- Use interactive multimedia software.
- UNITS: VI
- CREDIT:02
- MAX MARKS:34
  - (IN-SEM-07, END SEM-27)
- LECTURES:60L

COURSE OUTCOME OF 4TH SEMESTER COMPUTER SCIENCE (GENERIC ELECTIVE)

CSGE401: WEB AND E-COMERCE TECHNOLOGIES -(GE)
CREDIT :06

Course Objective

The course introduces the concepts of WEB and E-COMMERCE technologies to students, focusing on basics such as what is e-commerce related to E-commerce, the importance and significance of e-commerce, internet security, electronic data exchange, planning for e-commerce and E-Business.

Course learning Outcomes:

At the end the student will be able to

- Understand concept of Ecommerce and its types.
- Be familiarized with technologies for E-Commerce.
- Understand different types of Internet Security related to E-Commerce.
- Understand Selling and marketing on web.
- Be familiarized with concept of e-business and E-business Models.
- Understand various E-business Strategies
- UNITS: VI
- CREDIT:04
- MAX MARKS:66(IN-SEM-13, END SEM-53)
- LECTURES:60L

PRACTICALS:WEB AND E-COMMERCE TECHNOLOGIES

On successful completion of the course students will be able to

- Familiar with various HTML commands.
- Embedding /linking CSS.
- Use different technologies like Java Script, Perl/CGI 10,ASP etc .
- UNITS: VI
- CREDIT:02
- MAX MARKS:34
  - (IN-SEM-07, END SEM-27)
- LECTURES:60L

PROGRAM OUTCOME OF B.A IN ECONOMICS

"Economics is a part of social science; it studies the economic problems of the people living in the society."

- What is an economic problem?
- Introducing the two approaches of economics to the students: micro and the macro.
- Tools and techniques of quantitative approach: statistics and mathematics.
- Structure of the government's finance.
- Glimpses of the dynamic economy: developed and developing economy with special reference to Assam and India.
- Analysing the theories of international trade and environmental economics.
- Evolutionary process of economic theories.

COURSE OUTCOME OF THE 1ST SEMESTER BA ECONOMICS (Honours)

ECNHC101: INTRODUCTORY MICR EONOMICS.

- The paper develops the understanding of some basic concepts of microeconomic theory.
- It enhances the economic reasoning of the learners and emphadis will be on thinking like an economist.
- The paper will help students to analyze the real life situation.

Units: 5

Total marks: 16 X 5

Number of lecture hours: 15x5

COURSE OUTCOME OF THE 1ST SEMESTER BA ECONOMICS (HONOURS)

ECNHC102: MATHEMATICAL METHODS FOR ECONOMICS--1

- Introduction of basic concepts of Mathematics.
- To enable them tostudy the microeconomic theory at under graduate level.
- Knowledge of simple mathematics to understand statistics and econometrics.

Units: 5

Marks: 16 x 5

No. of lectures: 15x5

COURSE OUTCOME OF THE 2ND SEMESTER BA ECONOMICS (HONOURS)

ECNHCO201: INTRODUCTORY MACROECONOMICS

- Introduction and analysis of basic concept of macroeconomic.
- Determination and messurement of macrocecomomic variable.
- Features of money, inflation, BOP.

Units: 5

Total marks: 16 x 5

No. of lecture hours: 15x5

COURSE OUTCOME OF THE 2ND SEMESTER BA ECONOMICS (HONOURS)

ECNHC202 MATHEMATICAL HETHOD FOR ECONOMICS--2

This paper is the continuation of the paper 102 of the1st SEMESTER. So the outcome is same.

Units: 5

Marks: 16x5

No. of lecture hours: 15x5

COURSE OUTCOME OF THE 3RD SEMESTER BA ECONOMICS (HONOURS)

ECNHC301:ESSENTIALS OF MICROECONOMICS.

- Analysing the behaviour of individual agents.
- It provides knowledge to analyse the behaviour of consumer, producer and competitive firm.
- Use of mathematical tools and quantitative method.

Units: 5

Total marks: 16 x 5

No. of lecture hours: 15x5

ECNHC302: ESSENTIALS OF MACROECONOMICS

- It introducse the students to formal modeling of macro-economy in terms of analytical tools.

.Employment and output determination in closed economy.

- Theory related to open economy.

Units: 5

Total marks: 16 x 5

No. of lecture hours: 15x5

COURSE OUTCOME OF THE 3RD SEMESTER BA ECONOMICS (HONOURS)

ECNHC303:THE STATISTICAL METHOD FOR ECONOMICS.

- Introduction of basic concept and terminology of statistics.
- Notion of probability and its application
- Discussion on sampling techniques theused to collect survey data.

Units: 5

Total marks: 16 x 5

No. of lecture hours: 15x5

COURSE OUTCOME OF THE 4TH SEMESTER BA ECONOMICS (HONOURS)

C 8: ADVANCED MICRO ECONOMICS.

- Imparts knowledge on conception coupled with the use of mathematical tools and reasoning.
- It gives an idea about general equilibruim and welfare, imperfect markets.
- Gives idea of information economics related to envionment.

Units: 5

Total marks: 20+ 16+16 +12+16

No. of lecture hours: 15x5

C 9: ADVANCED MACRO ECONOMICS.

- Students are introduced to long run dynamic issues like growth and technical progress.
- It provide the micro foundation to the aggregative conceops.

Units: 5

Total marks: 20+20+15+15+10.

No. of lecture hours: 20+15+15+15+10.

COURSE OUTCOME OF THE 4TH SEMESTER BA ECONOMICS (Honours)

C10: INTRODUCTORY ECONOMETRICS

- Impart knoledge on basic econometric concepts and techniques.
- It covers statistical concepts of hypothesis testig , estimaton, and diagonisting testing of regression model.
- It covers the specification analysis.

Units: 5

Total marks: 10+25+15+15+15.

No. of lecture hours: 15+25+15+10+10.

COURSE OUTCOME OF THE 5TH SEMESTER BA ECONOMICS (HONOURS).

C11:INDIAN ECONOMY-I

- Review of major trends in economic indicators and polisy debates in post independence period.
- Emphasis on paradigm shifts and turning points.
- Try to cover the emerging issues.

Units: 4

Total marks: 20+20+20+20.

No. of lecture hours: 20+20+20+15.

C12:DEVELOPMENT ECONOMICS.

- Discussion of alternative concepts of development and their justification.
- Aggregate models of growth and cross-national comparision of growth experience.
- Role of the state in economic development linking political institution.

Units: 5

Total marks: 16 x 5

No. of lecture hours: 10x5

DSE3(Group-1) ECONOMIC HISTORY OF INDIA.

- Indian Economic development during 2nd half of British rule.
- Linked Indian economic development to colonial rule.
- Indian economic development after independence.

Units: 5

Total marks: 10+15+15+20+20.

No. of lecture hours: 10+10+15+20+20.

DSE5(GROUP-1): MONEY AND FINANCIAL MARKETS

- Imparting knowledge on monetary analysis and financial sectors of economy.
- Highlights the organisation,structure and role of financial markets.
- Financial and banking sector reform with special reference to India.

Units: 5

Total marks: 15+20+10+20+15.

No. of lecture hours: 15+20+10+15+15.

COURSE OUTCOME OF T HE 6TH SEMESTER BA ECONOMICS (HONOURS)

C 13:INDIAN ECONOMY---2

- Examines sector- specific policies and their impact on key economic indicators in India.
- Highlights major policy debates and empirical evidence.
- Capture emerging issues.

Units: 4

Total marks: 20 x 4

No. of lecture hours: 20+20+20+15.

COURSE OUTCOME OF THE 6TH SEMESTER BA ECONOMICS (HONOURS)

C14: DEVELOPMENT ECONOMICS -II

- Basic demographic concept.
- Structure of markets and contracts its link to the problems of poor countries.
- Role of Globalisation and increased international dependence.

Units: 5

Total marks: 16 x 5

No. of lecture hours: 15+15+10+15+20.,

DSE 7(GROUP-2): FINANCIAL ECONOMICS

- Introducing students the economics of finance.
- Valuation of assests derivatives are studied in detail.
- Brief intruduction to corporate finance.

Units: 5

Total marks: 20+15+15+20+10.

No. of lecture hours: 20+15+15+15+10.

DSE8: ENVIRONMENTAL ECONOMICS

- Economic causes of environmental probelems.
- Economic implication of environmental policies.
- Quantification of enviromental damages, tools for evaluation of environmental projects .

Units: 5

Total marks: 16 x 5.

No. of lecture hours: 15x5.

COURSE OUTCOME OF THE 4TH SEMESTER BA(GE) ECONOMICS.

GE 4(C): PUBLIC FINANCE.

- Over view of Government finance with reference to India.
- Fiscal fedrealism and decentralisation in India.
- Analysis of Government sector , business and journalism.

Units: 5

Total marks: 16 x 5

No. of lecture hours: 15

NB:

GE papers of 1st &2nd SEM are same with HONOURS PAPERS.

GE parer of 3rd SEM is same with 5th SEM HONOURS PAPER.

COURSE OUTCOME OF EDUCATION

EDUCATION (HONOURS), CBCS

B.A 1st Semester Education Honours

1. **Course:** Education (Hons)
   Paper: EDNH 101: PHILOSOPHICAL FOUNDATIONS OF EDUCATION
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Describe the meaning, nature and scope of education.
   - Describe the modern concept, types, aims, functions and role of education.
   - Describe the role of philosophy in education.
   - Explain the basic tenants of the Indian and Western Schools of philosophy and their influences in education.
   - Define the concept and nature of curriculum.
   - Illustrate the various philosophical thoughts given in the course on co-curricular activities.

2. **Course:** Education (Hons)
   Paper: EDNH 102: SOCIOLOGICAL FOUNDATIONS OF EDUCATION
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Explain the concept, approaches and theories of educational sociology.
   - Describe the social aspects, the roles of various agencies for socialization, the social process and the role of education.
   - Explain the role of Education in Social Change and Development
   - Describe the social groups in Indian context and their rights to education.
   - Explain the different political ideologies and their contributions towards education.

B.A 2nd Semester Education Honours

1. **Course:** Education (Hons)
   Paper: EDNH 201: PSYCHOLOGICAL FOUNDATIONS OF EDUCATION
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Explain the meaning, nature, scope and importance of psychology and Educational psychology in Education.
   - Explain the Schools of Psychology and their contributions.
   - Describe the meaning, concept, factors, variables, types and theories of learning.
   - Describe the concept of motivation, maturation, attention and interest in learning.
   - Discuss the concept and theories of intelligence and creativity.
   - Illustrate the importance of nurturing creativity in classroom.
   - Describe the Education of the exceptional children.
   - Explain the meaning, concept, factors and theories of personality.

- Describe the concepts of mental health and mental hygiene, measures of mental health in school.

2. **Course:** Education (Hons)
   Paper: EDNH 202: EDUCATIONAL ADMINISTRATION AND MANAGEMENT
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Define the concept of educational management and administration.
   - Describe the types of educational management and the modern trends of educational management.
   - Explain the concept, nature, functions and principles of educational leadership.
   - Describe the styles of leadership and its implication in educational leadership.
   - Define the concept, principles, types and factors of educational planning and its importance.
   - Analyze the role and importance of educational supervision and the qualities of a good educational supervisor.
   - Explain the concept, principles of educational finance.
   - Illustrate the various management issues and suggest measures to ensure quality in educational management.

B.A 3rd Semester Education Honours

1. **Course:** Education (Hons)
   Paper: EDNH 301: GREAT EDUCATORS AND EDUCATIONAL THOUGHTS
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Describe the various ancient Indian educators and their educational thoughts such as: Shankaracharya, Yagyavalkya and Sankardeva.
   - Describe the various modern Indian educators and their educational thoughts such as: Rabindra Nath Tagore, Vivekananda and M. K. Gandhi.
   - Describe the various western educators and their educational thoughts such as: Plato and Jean Jacques Rousseau, John Dewey, Jacques Derrida and Jean Paul Sartre.
   - Describe some alternative thinkers and their educational thoughts such as: Ivan Illich and Paulo Freire.
   - Explain the relevance of the educational thoughts of the given philosophers.

2. **Course:** Education (Hons)
   Paper: EDNH 302: MEASUREMENT AND EVALUATION IN EDUCATION
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Define and discuss the concept of measurement and evaluation in education.
   - Describe the meaning of psychological tests, Classification of tests and discuss the characteristics of a good test.
   - Describe some specific psychological tests such as: Achievement test, Intelligence test, Aptitude test and Personality assessment techniques.

- Develop understanding on the meaning and nature of statistics in education.
- Apply statistics in measurement and evaluation of educational practices.
- Illustrate the presentation of data in graphical form.
- Define, illustrate and estimate normal probability curve and find out the correlation of data.

3. **Course:** Education (Hons)
   Paper: EDNH 303: EXPERIMENTAL PSYCHOLOGY AND LABORATORY PRACTICAL
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-

- Explain the concept, scope and need of Experimental psychology.
- Explain the origin of psychological experiment and application of psychological experiment in the field of education.
- Conduct and report the psychological experiments.
- Describe the meaning and nature of memory, immediate memory, memory span and its related practical.
- Explain the concept of attention, span of attention and its related practical.
- Explain the concept, theories and methods of learning and its related practical.
- State the concept of personality, different techniques of personality testing and its related practical.
- State the concept of intelligence, historical background of intelligence testing and its related practical.

B.A 4th Semester Education Honours

1. **Course:** Education (Hons)
   Paper: EDNH 401: EDUCATION IN PRE-INDEPENDENT INDIA
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-

- Explain the concept of education in the context of Indian heritage such as Education in Ancient India and Medieval India.
- Compare among the Vedic, Buddhist and Islamic education system.
- Evaluate the education system during British period with special emphasis on the commissions and committees.
- Evaluate the growth and development of education from 1854 to 1921
- Evaluate the growth and development of education from 1921 to 1947

2. **Course:** Education (Hons)
   Paper: EDNH 402: TECHNIQUES OF TEACHING
   Credit: 4
   Total Marks: 60 (48 marks for End-Semester and 12 marks for In-Semester)
   Course Outcome: The students will be able to-

- Explain the meaning and nature of teaching.
- Describe the principles of teaching and learning.
- Describe the role of teacher at different phases of teaching.
- Explain the importance of lesson planning in teaching-learning process.
- Describe the concept of teaching skills and the stages of microteaching cycle.

- State the objectives of teaching different subjects in Elementary and Secondary levels.
- Describe the different methods and approaches of teaching.

3. **Course:** Education (Hons)
   Paper: EDNH 4020: TEACHING PRACTICE
   Credit: 2
   Total Marks: 40 (32 marks for End-Semester and 08 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Demonstrate a few teaching skills in classroom.
   - Integrate the teaching skills in real classroom situations.
   - Prepare lesson plans for Microteaching and Practice teaching

4. **Course:** Education (Hons)
   Paper: EDNH 403: EDUCATIONAL TECHNOLOGY
   Credit: 6
   Total Marks: 100 (80 marks for End-Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Describe the concept, nature and components of Educational Technology.
   - Distinguish between Educational technology and Instructional Technology.
   - Explain the role ICT in education and apply ICT in teaching learning.
   - Describe the concept, components and characteristics of communication in teaching learning.
   - Demonstrate the skills of effective communication.
   - Apply Models of teaching, personalized system of instruction, programmed learning in teaching learning.
   - Explain the usefulness of technology in Open and Distance learning.
   - Analyze the concept of learning resources. In teaching learning.

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EDUCATION [GENERIC ELECTIVE (G.E)], CBCS

B.A 1st Semester Education G.E

1. **Course:** Education (G.E)
   Paper: GEED 101: GUIDANCE AND COUNSELLING
   Credit: 6
   Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)
   Course Outcome: The students will be able to-
   - Describe the meaning, nature, characteristics, functions, purpose, and scope of guidance and counselling.
   - Discuss the importance of guidance at various levels from Pre-school to Higher education level.
   - State the basic principles and explain the types of guidance and counselling.
   - Use various tools and techniques of guidance in appropriate context.
   - Explain and integrate the concept of Educational guidance and Vocational guidance.
   - Explain the roles of various organizations and agencies for guidance and counselling.

B.A 2nd Semester Education G.E

2. Course: Education (G.E)

Paper: GEED 202: GENDER AND EDUCATION

Credit: 6

Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)

Course Outcome: The students will be able to-

- Describe the meaning and concept of Sex and Gender.
- Distinguish between Sex and Gender.
- Describe the gender role in patriarchal and matriarchal society.
- Explain the concept of gender role, gender segregation, gender marginalization and gender stereotyping.
- Elaborate the concept and nature of self-silencing.
- Critically examine the issues related to gender in society.
- Explain the significance of inclusive approach in school.
- State the laws, articles and policies to bring gender equality.
- Analyze the educational policies and programmes from gender equality perspective.

B.A 3rd Semester Education G.E

3. Course: Education (G.E)

Paper: GEED 301: INCLUSIVE EDUCATION

Credit: 6

Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)

Course Outcome: The students will be able to-

- Explain the concept of special education, integrated education, and inclusive education.
- Discuss the global and national commitments towards the education of children with diverse needs.
- Appreciate the need for promoting inclusive practice and the roles and responsibilities of all concerned personnel.
- Analyse critically the policies and legislations, and the recommendations of various commissions and committees towards teacher preparation for inclusive education.
- Describe the aspects of curriculum adaptations for children with diverse needs.
- Identify the curricular and the co-curricular activities for meeting diverse needs of the children.
- Examine the problems/constraints in education of socially disadvantaged children.
- Identify existing support services for promoting inclusive practice.
- Explain the concept of Multicultural education.

B.A 4th Semester Education G.E

4. Course: Education (G.E)

Paper: GEED 401: ECONOMICS OF EDUCATION

Credit: 6

Total Marks: 100 (80 marks for End Semester and 20 marks for In-Semester)

Course Outcome: The students will be able to-

- Describe the meaning, scope and importance of Economics of Education
- Define and illustrate the concepts used in economics of Education.
- Examine the historical development of Economics of Education.
- Explain the concept of Education as a good, demand and supply of education,

Utility of Education etc.

- Explain the concept of investment in education, return on investment in education, education as production process etc.
- Explain the concepts of different types of Educational cost.
- Explain the various issues of economics of education.
- Examine the concepts of human capital formation, Education financing, Educational Planning etc.
- Explain the meaning and importance of Public Private Partnership (PPP) in education.

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EDUCATION (MAJOR) SEMESTER SYSTEM

B.A 5th Semester Education (MAJOR)

1. **Course:** Education (Major)
   Paper: EDNM 501: CHILD PSYCHOLOGY AND CHILD GUIDANCE
   Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Define child psychology and relate its importance.
   - Discuss historical perspective of child psychology.
   - Discuss methods used in child psychology.
   - Discuss and develop understanding during early infancy and childhood periods.
   - Develop insight into common childhood problems and ways to prevent as well as correct them.
   - Extend understanding on the influence of home, school and society in child development.
   - Importance of guidance and counselling in relation to child development.

2. **Course:** Education (Major)
   Paper: EDNM 502: EDUCATION IN POST INDEPENDENT INDIA
   Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Create awareness of the developments of Indian education since independence.
   - Discuss and relate to the educational changes taking place in India since independence.
   - Develop appreciation of the reasons for the recommendations of the different educational commissions since independence.
   - Analyze the causes of various educational movements and its accompanying challenges.

3. **Course:** Education (Major)
   Paper: EDNM 503: EDUCATIONAL TECHNOLOGY
   Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Define educational technology and it's use in the education system.
   - Define and discuss various uses of mass-media and their rapidly expanding dimensions.
   - Explain class-room communication skills including its meaning, nature, types, factors and ways of effective communication.
   - Define teaching objectives and influence of bloom's taxonomy.
   - Extend innovative methods of educational technology in teaching-learning process.

4. **Course:** Education (Major)
   Paper: EDNM 504: TECHNIQUES AND METHODOLOGY OF TEACHING
   Total Marks: 50 (40 marks for End Semester Written Examination and 10 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Define the principles of teaching-learning process.
   - Outline the role of audio-visual aids in teaching-learning process.
   - Discuss the importance of lesson-planning in teaching-learning process.
   - Acquaint the different methods and approaches of teaching.
   - Explain macro and micro-teaching in the light of various subjects.

5. **Course:** Education (Major)
   Paper: EDNM 505: PRACTICE TEACHING
   Total Marks: 50 (40 marks for End Semester Written Examination and 10 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Demonstrate a few teaching skills through micro-teaching.
   - Utilize demonstrated teaching skills through practice teaching.
   - Develop the skill of preparing lesson-plans for micro and macro-teaching.

B.A 6th Semester Education (MAJOR)

1. **Course:** Education (Major)
   Paper: EDNM 601
   Total Marks: 50 (40 marks for End Semester Written Examination and 10 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Define and discuss experimental psychology.
   - Perceive the uses of psychological test.
   - Experiment with and conduct psychological experiments and tests.

2. **Course:** Education (Major)
Paper: EDNM 602
Total Marks: 50 (40 marks for End Semester Written Examination and 10 marks for Internal Assessment)
Course Outcome: The students will be able to-

- Acquaint with practical knowledge of field work studies.
- Appraise a report on field – study.
- Relate the field-study with present educational realities occurring in the society.

3. **Course:** Education (Major)
Paper: EDNM 603: EDUCATIONAL MANAGEMENT
Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
Course Outcome: The students will be able to-

- Define concepts of management including its meaning, nature, scope, functions and types.
- Develop understanding towards practices of management in education.
- Explain the concepts of educational planning, educational supervision and educational finance.

4. **Course:** Education (Major)
Paper: EDNM 604: EDUCATION IN WORLD PERSPECTIVE
Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
Course Outcome: The students will be able to-

- Explain the educational system of India.
- Acquaint with the concept of comparative study in this global world.
- Analyze and compare the educational systems of various countries and find the drawbacks of the educational system of India.
- List the changes necessary in education in the context of global needs and reforms

5. **Course:** Education (Major)
Paper: EDNM 605: EMERGING TRENDS IN INDIAN EDUCATION
Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
Course Outcome: The students will be able to-

- Discuss significant trends in Indian education.
- Develop awareness about various plans and policies regarding educational set up in India.
- Identify major social and national issues related to educational system in India.
- Create awareness of the new trends in the field of modern education of India, specially the non-formal aspects of Indian education.

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EDUCATION (CORE) SEMESTER SYSTEM

B.A 5th Semester Education (Core)

1. **Course:** Education (CORE)
   Paper: EDNG 501: DEVELOPMENTAL HISTORY OF INDIAN EDUCATION
   Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Show and summarise the development and characteristics of Indian education during ancient, medieval and modern times.
   - Extend to selected educational documents and reports and relate to educational changes and development of different periods.
   - Influence of different socio-political movements, factors and forces on the development of education in India.
   - Create awareness on the emerging issues and challenges in Indian education in the 21st century.

B.A 6th Semester Education (Core)

1. **Course:** Education (CORE)
   Paper: EDNG 601:
   Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Define and explain teaching-learning process.
   - Define and discuss lesson-plan in relation to its meaning, importance and steps of construction.
   - Explain and discuss audio-visual aids and its effectiveness in teaching-learning process.
   - Outline various methods and approaches of teaching.
   - Define technology in education and its application.
   - Discuss communication process for enhancement of teaching.

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COURSE OUTCOME OF SKILL-BASED COURSE (TEACHING IN ELEMENTARY LEVEL)

B.A 5th Semester Education (Core)

1. **Subject:** Teaching In Elementary Level (TELG)
   Course Code: TELG – 501
   Course Title: Basics of Teaching in Elementary level
   Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)
   Course Outcome: The students will be able to-
   - Define Concepts Of Elementary Education And Assam.
   - Discuss Human Growth And Development Stages.
   - Discuss Curricular And Co-Curricular Activities.

- Discuss Concepts Of Examination And Evaluation, Needs, Types, Tools And Techniques.

2. Subject: Teaching In Elementary Level (TELG)

Course Code: TELG – 502

Course Title: Aspects of Teaching Learning process

Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)

Course Outcome: The students will be able to-

- Define Fundamental Concepts Related To Teaching-Learning Process.
- Discuss Lesson-Plans And Its Various Aspects.
- Discuss The Meaning, Nature, Types And Importance Of Audio-Visual Aids.
- Elaborate The Concept Of Different Aspects Of Organization And Management In Relation To An Elementary School.
- Discuss Exceptional Children And Their Special Education.

B.A 6th Semester Education (Core)

1. Subject: Teaching In Elementary Level (TELG)

Course Code: TELG – 601

Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)

Course Outcome: The students will be able to-

- Formulate Question-Paper Setting In The Subject Opted For Teaching-Practice.
- Develop Teaching-Learning Materials Suitable For Elementary Level.
- Demonstrate A Few Teaching Skills Through Micro-Teaching.

2. Subject: Teaching In Elementary Level (TELG)

Course Code: TELG – 602

Total Marks: 100 (80 marks for End Semester Written Examination and 20 marks for Internal Assessment)

Course Outcome: The students will be able to-

- Demonstrate A Few Teaching Skills through Macro -Teaching.
- Design Digital Power-Point Lessons In Relation To Elementary Education.
- Develop The Skill Of Preparing Lesson-Plans Macro-Teaching.

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PROGRAM OUTCOME OF EDUCATION (MAJOR/HONOURS)

- ✓ Develop a broader understanding on the philosophical, sociological, and psychological foundation s of education.
- ✓ Discuss and apply different concepts of measurement and evaluation in education.
- ✓ Maximize knowledge on the historical developments of Indian education system in the pre-independence and post-independent periods.
- ✓ Familiarize with the life-history and educational thoughts of great educators.
- ✓ Define and appraise knowledge on child-psychology and educational guidance.
- ✓ Orient on different aspects of educational technology.
- ✓ Discuss and adapt the techniques and methodology of teaching.
- ✓ Apply and evaluate different methods of psychological experiments in relation to memory, personality, attention, intelligence, learning etc.
- ✓ Identify problems related to different aspects of education and thereby put forward some suggestions for improvement.
- ✓ Extend various concepts and ideas on educational management.
- ✓ Develop insight on a comparative level of the educational systems of various countries.
- ✓ Analyze the different trends emerging in modern education in India.

PROGRAM OUTCOME OF EDUCATION (CORE)

- ✓ Discuss and examine the contemporary issues of Indian education.
- ✓ Develop broader knowledge on various developments that occurred in the history of education in India.
- ✓ Discuss and adapt the techniques and methodology in teaching.

PROGRAM OUTCOME OF SKILLED- BASED COURSE (TEACHING IN ELEMENTARY LEVEL)

- ✓ Discuss and develop knowledge about the basics of teaching in elementary level.
- ✓ Discover various aspects of teaching and learning process.
- ✓ Utilize the knowledge about question-paper setting, preparation of teaching-learning materials and micro-teaching practically.
- ✓ Develop the quality in practice-teaching though macro lesson – plans.
- ✓ Designing digital lesson- plans for use of technology in education.

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DEPARTMENT OF ENGLISH (BA CBCS SYLLABUS)

PROGRAM SPECIFIC OUTCOME

The syllabus of English Literature under Dibrugarh University covers a wide range of literary writings from British, American to Modern Indian Literature. In the recent revised syllabus (2018), English language and literary curricula have evolved to the educated Indian variant of English Literature introducing students to Indian Classical Literature, especially, Sanskrit Literature and Assamese Classical Literature. Proficiency in language and understanding the literary texts are crucial to transmit knowledge. Therefore, it is imperative of English Honours students to know the acquisition, preservation, dissemination, application and the creation of literary knowledge. The myriad range of creative resources of language and literature in poetry, prose, fiction and drama helps the learners to explore the plethrora of human experiences at different ages. Students are expected to appreciate literature, be imaginative, enhance creativity through language, develop communication skills, be rhetorically dexterous and technically proficient to help gain a deeper insight into human experiences and understanding the philosophy of life.

The U.G syllabus will enable learners to develop literary skills, become critical readers developing skills of analytical and discursive argument, help engage students with various strategies of intellectual inquiry, drafting and revising different styles of writing ,developing scholarly methodologies for research / projects etc. Apart from English Honours course the syllabus includes English Communication, Creative Writing etc.directing innovative ways of using English language in verbal and non-verbal communications. The overall syllabus will enable learners to be effective thinkers and communicators and practice writing in a variety of genres which will help expand the thought-process of young learners.

PROGRAME OUTCOME

The following are the expected Program Outcome for English courses under Dibrugarh University:-

1. **Enhance Reading, Writing and Communication Skills :**
   i) Learners will become accomplished readers and develop interest for critical close-reading of the prescribed texts and understand its broader implications.
   ii) Students will develop effective writing skills for a variety of literary and professional contents and validate the ability for grammatical and stylistic clarity.

iii) Learners will develop the ability to extract and convey information and communicate ideas logically.

2. Valuing Literature, History, Culture and Tradition :

The present U.G (CBCS) level syllabus includes the introduction of the ancient Sanskrit Texts,Classical Regional Texts, as well as Classical Greek and Roman Texts. Reading literature in English address the complex issues of culture, tradition, identity, nationalism of the world literature. Students of English Literature will thereby cultivate the capacity to appreciate the aesthetic and ethical value of literary texts.

3. Critical Approaches:

The learners will be exposed to various socio-literary, political and cultural traditions through close-reading of the representative texts and interpret them critically. With the help of various literary theories students will develop the ability to critical insight and locate the dominant or marginalised voices and sensitize them with the issues of sexuality and gender. Thereby, students will develop the ability to re-read the literary texts and interpret them accordingly.

4. Research Skills:

The course will enable the learners with critical and scholarly enquiry for future research ideas. Students will be able to identify ideas, topics and formulate questions for productive research projects;also encourage appropriate research methodologies for academic purposes.

COURSE OUTCOME:

The syllabus of U.G level in English seeks to foster the intellectual and academic development of its learners, both pass and honours. The course offers a wide variety of writings from world literature as well as special focus to Indian Literature and Regional

writings. The pertinent issues of race, gender, culture, ethnicity, politics, history etc, are addressed in the process of imparting knowledge of English Literature in its pluralistic forms.

Course 1: Indian Classical Literature (CC10100)

Course2: European Classical Literature (CC10200)

After completion of the course in Classical Literature students will be able to :

i) Trace the importance and influence that Classical literature both Indian and European have on Modern English Language and Literature.
ii) Interpret these ancient texts from contemporary points of views.

Course 3: Indian Writing in English (CC20100)
Course4: British Poetry and Drama (CC20200)
(14^{th} to 17thc)

After completion of the course the learners will be able to:

i) Appreciate the diversed cultural traditions and map the intellectual trajectory from Pre-to Post- Independence period.
ii) Interpret the writings of Indian writers in English.
iii) Familarize with the major literary works by British writers in the field of Poetry and Drama.

Course 5: American Literature (CC 30100)
Course 6: Popular Literature (CC30200)
Course7: British Poetry and Drama CC30300)
(17^{th} to18thc)

After completion of this course students will be able to :

i) Acquaint and understand the beginnings of American Literature, its Puritan legacy, the American Dream in the formation of the American Nation.
ii) Probe into the literary and aesthetic merits of Popular Fictions, such as crime-thriller, graphic fiction, children's literature etc.
iii) Identify the distinct literary characteristics of the Puritan Interregnum and Restoration writers.

Course 8: British Literature (18^{th}c) (CC40100)

Course 9:British Romantic Literature (CC40200)

Course 10: British Literature (19^{th}c) (CC40300)

After completion of this course learners will be able to:

Analyse and identify the literary works of the British writers from the 18thc to 19thc and display an elaborate knowledge of the historical, social and cultural contexts of the British Literature.

Course 11: Women's Writings (CC50100)

Course 12: British Literature : Early 20thc (CC50200)

After completion of the course the students will be able to :

i) Understand the grounds of women's writings as a separate genre and analyse the canonical texts by women writers across different ages around the world.

ii) Understand the scope of the concepts of the 20thc British literary techniques such as Modernism, Psychoanalysis, Stream of Consciousness etc.

Course 13: Modern European Drama (CC60100)

Course 14: Post Colonial Literature (CC60200)

After completion of the course the learners wii be able to:

i) Acquaintance with the great tradition of Modern European Drama and demonstrate an understanding of the specific techniques.

ii) Reflect upon the Post-Colonial experiences, the colonial oppression, the problematics of post-colonial identity, psychology of anti-colonialist resistance etc.

GEOGRAPHY

PROGRAMME SPECIFIC OUTCOME

- Understand the nature and basic concepts of geography and it's different branches
- Analyse the relationship between man and his environment in different settings.
- Develop skills for representation of real life situation with the aid of cartographic tools and techniques and quantitative methods
- Apply the tools and techniques in analyzing human behaviour in response to the environment through field -based study.

COURSE OUTCOME

HONOURS

SEMESTER I

COURSE C1 (Theory) 56 Hours / lectures

GGRM 101T4: GEOMORPHOLOGY AND BIO GEOGRAPHY

- The main objective of this paper is to make the students comprehend the various processes responsible for the development of diverse landforms on the earth surface. The candidate will also learn how the natural surrounding and human activities are responsible for the distribution of plants and animals.

MARKS- 53+13=66
CREDIT- 4

Course C1

GGRM 101P2: GEOMORPHIC TECHNIQUES (PRACTICAL) 28 Hours

- The main objective of this paper is to make the students understand the various morphometric techniques used in drainage analysis. The students will also about the various slope analysis techniques and uses of different types of scale.

MARKS- 27+7=34
CREDIT- 2

Course C2

GGRM 102T4 CLIMATOLOGY (Theory) 56 hours

- The main objective of this paper is to make the students aware of the composition of atmosphere and various climatic processes. The students will also learn about various factors responsible for the climatic disturbances.

MARKS- 53+13=66
CREDIT- 4

Course C2
GGRM 102P2: PRACTICALS BASED ON CLIMATIC DATA 28 hours

- The main objective of this paper is to make the students gain knowledge of the various weather symbols and to prepare graphs based on climatic data. The students will also find out the variability in the distribution of rainfall and the factors responsible for such variation in the pattern of rainfall.

MARKS- 27+7=34
CREDIT- 2

Course C3
GGRM201T6: HUMAN GEOGRAPHY (Theory) 84hours

- The objective of this paper is to introduce the major themes of human geography and its importance in present days. The students will also learn about population growth and factors responsible for uneven distribution of population in the world. The student will also gain knowledge about the population resource relationship and various types of settlement pattern.

MARKS- 80+20=100
CREDIT- 6

Course C4
GGRM 202T4: GEOGRAPHY OF INDIA (Theory) 56 Hours

- The objective of this paper is to make the students familiar with the various aspects of India. The students will learn about the physical, anthropogenic and economic diversity of India and the factors responsible for such diversities.

MARKS- 53+13=66
CREDIT- 4

Course C4
GGRM 202P2: PRACTICAL ON THEMATIC CARTOGARPHY 28hours

- The main objective of this paper is to make the students aware of the various application of thematic mapping and shape index analysis.

MARKS- 27+7=34
CREDIT- 2

Course C5
GGRM 301T4: CARTOGRAPHY (Theory) 56 hours

- The main objective of this paper is to make the students aware about the history of map projection and uses of different types of map projection. An attempt is also made to enlighten the students about the various surveying methods and the instrument used in it.

MARKS- 53+13=66
CREDIT- 4

C5

GGRM 302P2: CARTOGRAPHIC TECHNIQUES (PRACTICAL) 28 Hours

- The main objective of this paper is to enlighten the students with the different types of map projection and its uses.

Course C6

GGRM302T6: REGIONAL GEOGRAPHY OF WORLD (Theory) 56 hours

- The main objective of this course to develop understanding of the learner about climate, soil and topography in different continents of the world. the course also familiarize learner with industrialization and population distribution in developed, developing and underdeveloped nations of the world.

MARKS- 53+13=66
CREDIT- 4

Course C7

GGRM 303T6: STATISTICAL METHODS IN GEOGRAPHY (Theory) 84 hours

- The main objective of this paper is to make the students aware about the various statistical techniques used in geographical study.

MARKS- 80+20=100
CREDIT- 6

Course C8

GGRM401T6 : ECONOMIC GEOGRAPHY (Theory) 84 hours

- The goal of this course is to enhance the learner with the basic ideas of primary, secondary and tertiary activities and its spatio-temporal pattern. The learners will also acquire the knowledge of some economic development models in relation to agriculture and industry.

MARKS- 80+20=100
CREDIT- 6

Course C 9

GGRM402T6: ENVIRONMENTAL GEOGRAPHY (Theory) 84 hours

- The objective of this course is to develop conceptual and theoretical ideas of environment as well as relationship between man and environment in different geo climatic regions. The learners will also attain the nature and intensity of some burning environmental issues at local, regional and global level along with mitigation programs and policies.

MARKS- 80+20=100
CREDIT- 6

Course C10

GGRM403T4: REMOTE SESING AND GIS (Theory) 56 Lectures

- The goal of this course is to enhance of the ability of the learners in the field of latest satellite based technology and data source such as remote sensing.

MARKS- 53+13=66
CREDIT- 4

Course C10
GGRM403P2: REMOTE SENSING AND GIS (PRACTICAL) 28 Hours
(The objective of the course is to develop some practical knowledge and skills in diversified applications of remote sensing data and technology)

Course C11
GGRM 501T4: REGIONAL PLANNING AND DEVELOPMENT (Theory) 56 Lectures

- The objective of the paper is to improve the understanding of learners about Region, regionalization, Regional planning and development. It will also incorporate models associated with economic growth and development.

MARKS- 27+7=34
CREDIT- 2

Course C11
GGRM 501P2: REGIONAL PLANNING AND DEVELOPMENT (Practical)
28 hours

- The basic objective of the course is to enhance the learner in the field of demarcation and distribution of resources

MARKS- 27+7=34
CREDIT- 2

Course C12
GGRM502T4: POPULATION GEOGRAPHY (Theory) 56 Lectures

- The objective of this course is to enhance the learner with the basic ideas of population size, composition, growth and distribution along with its determinants. The course will also incorporate contemporary issues of population.

MARKS- 53+13=66
CREDIT- 4

Course C12
GGRM 502P2: POPULATION GEOGRAPHY (Practical) 28 Hours

- The main objective of the course is to develop the cartographic ideas for the representation of major Demographic data.

MARKS- 27+7=34
CREDIT- 2

Course C 13
GGRM601T6: EVOLUTION OF GEOGRAPHICAL THOUGHT (Theory) 84 Lectures

- The objective of the course is familiarizing the learner towards the development of geographic ideas during the era of ancient, pre-modern and modern period. The course will also enlighten the learners with the contemporary issues and approaches of development of the discipline.

MARKS- 80+20=100

CREDIT- 6

Course C14
GGRM602T6: DISASTER MANAGEMENT BASED PROJECT WORK 84 Hours

- The main objective of the field work is to conduct an extensive survey over an area to evaluate the nature, intensity, frequency and impact of a Hazard/ disaster and suggesting possible mitigation measures.

MARKS- 80+20=100
CREDIT- 6

SKILL ENHANCEMENT COURSE (Any 2)

SEC 1(4C)
GGRM SEC301AP2: REMOTE SENSING (PRACTICAL) 56 Hours

- The objective of the course is to develop some practical knowledge and skills in diversified applications of remote sensing data and technology.

MARKS- 24+6=30
CREDIT- 6

GGRM SEC301BP2: **ADVANCED SPATIAL STATISTICAL TECHNIQUES**
56 Lectures/ hours

- The objective of the course is to develop diversified statistical knowledge and skills in field of data collection, data processing and data analysis and interpretation.

MARKS- 24+6=30
CREDIT- 6

SEC 2 (4 C)
GGRMSEC401AP2: GEOGRAPHICAL INFORMATION SYSTEM (PRACTICAL)
56 HOURS /LECTURES

- The objective of the course is to enhance the technical skills in the field of processing and analysis of both spatial and non-spatial data in GIS Software acquired from GPS, Remote sensing and land base surveys and its utilities in various fields.

MARKS- 24+6=30
CREDIT- 6

GGRM SEC401BP2: RESEARCH METHODS (PRACTICAL)
56 HOURS/LECTURES

- The main objective of the course to familiarize learner with the basic ideas of framing research questions/ research hypothesis, scientific methods of data collection and analysis along with preparation of research report.

MARKS- 24+6=30
CREDIT- 6

ELECTIVE DISCIPLINE SPECIFIC (ANY FOUR)

DSE 1 (6 C)

GGRM DSE501AT6: SETTLEMENT GEOGRAPHY 84 HOURS/ LECTURES

- The objective of this course is to develop understanding of the learner about the concept, types and the classification of settlements. The course also familiarizes learners with the basic theories of market center and settlement evolution.

DSE 1

GGRM DSE501B T6: RESOURCE GEOGRAPHY 84 HOURS/ LECTURES

- The main objective of the course to develop the concept of recourse, utilization pattern, classification and its distribution over the earth. The course also focuses on significances of resource management and sustainable development.

MARKS- 80+20=100
CREDIT- 6

DSE 2 (6 C)

GGRM DSE 502AT6 : URBAN GEOGRAPHY 84 HOURS/ LECTURES

- The main objective of this course is to introduce learners with the nature, scope and development of urban geography. The course also deals with pattern of urbanization in different parts of the world along with basic issues of urbanization in some of the major urban agglomerations in India.

MARKS- 80+20=100
CREDIT- 6

DSE 2 (6 C)

GGRM DSE502BT6: **AGRICULTURAL GEOGRAPHY**
84 HOURS/ LECTURES

- The objective of this course to enhance the concept of agricultural activities, its determinants and types under different geo- environmental condition of the world. The course also introduces learners with some Land use and cropping intensity models.

MARKS- 80+20=100
CREDIT- 6

DSE 3 (6 C) GGRM DSE 601AT6:
GEOGRAPHY OF HEALTH AND WELLBEING 84 HOURS/ LECTURES

- The objective of the course to conceptualize learner in the field of health and well being, relationship between human activities, health and environment. The course also covers broad aspects of pollution, climate change and health issues in different parts of the world.

MARKS- 80+20=100
CREDIT- 6

DSE 4 (6 C)
GGRM DSE 602AT6: HYDROLOGY AND OCEANOGRAPHY
84 HOURS/ LECTURES

- The main objective of this course is to enhance the students about the concept and components of hydrological cycle and its intervention by anthropogenic activities. The course also incorporates bottom configuration and ocean dynamics along with physical and chemical properties of ocean sea water.

MARKS- 80+20=100
CREDIT- 6

DSE 4 (6 C)
GGRM DSE 602BT6: SOCIAL GEOGRAPHY 84 HOURS/ LECTURES

- The main objective of this paper is to make the student understand the basic concept of social geography and the impact of technologies in social changes. The student will also know about the different social categories and social problems faced by the society today.

MARKS- 80+20=100
CREDIT- 6

ELECTIVE GENERIC PAPERS

GE 1 (6 C)

GGRM GE 101AT6: DISASTER MANAGEMENT
84 HOURS/ LECTURES

- The main objective of this paper is to make the students aware about the concepts of hazards, disasters, risk and vulnerability. In this paper an attempt has been made to prepare the students about the Do's And Don'ts during and post disaster.

MARKS- 80+20=100
CREDIT- 6

GE 1
GGRM GE 101BT6: GEOGRAPHY OF TOURISM
84HOURS/ LECTURES

- The main objective of this paper is to make the students aware about the scope and nature of tourism. The students will also learn about the impact of tourism in the economy, environment and society.

MARKS- 80+20=100
CREDIT- 6

GE 2 (6 C)
GGRM GE 201AT6: SPATIAL INFORMATION TECHNOLOGY
84 HOURS/ LECTURES

- The main objective of this paper is to enlightened the students about the application of various spatial information technologies and the data used for spatial information.

MARKS- 80+20=100
CREDIT- 6

GE 2
GGRM GE201BT6 : REGIONAL DEVELOPMENT 84 HOURS/ LECTURES

- The main objective of this paper is to introduce the student about the basic of regions and the need of regional planning in India. The students will also learn about the strategies and models used for regional planning.

MARKS- 80+20=100
CREDIT- 6

GE 3 (6 C)
GGRM GE 301AT6: CLIMATE CHANGE: VULNERABILITY AND ADAPTATION 84 HOURS/LECTURES

- The main objective of this paper is to make the students understand climate change and the factors responsible for such changes. The students will also learn about the various negative impact of climate change on flora and fauna and its mitigations.

MARKS- 80+20=100
CREDIT- 6

GE 3
GGRM GE301BT6: RURAL DEVELOPMENT 84 HOURS/ LECTURES

- The main objective of this paper is to make the students understand meaning of rural development and the impact of rural economies on the economy of the country.

MARKS- 80+20=100
CREDIT- 6

GE 4 (6 C)
GGRM GE401AT6: INDUSTRIAL GEOGRAPHY 84 HOURS/LECTURES

- The main objective of this paper is to make the students aware about the nature and scope of industrial geography. The students will also know about the various industrial policies of India and impact of industries in the environment, society and economy of India.

MARKS- 80+20=100
CREDIT- 6

GE 4
GGRM GE 401BT6: SUSTAINABLE DEVELOPMENT 84 HOURS/LECTURES

- The main objective of this paper is to make the students understand the basic concept and history of development of sustainable development. The students will also know about the role of various agencies in sustainable development.

MARKS- 80+20=100
CREDIT- 6

OLD SEMESTER SYSTEM
MAJOR

PAPER GGRM 501: THEORY (REGIONAL GEOGRAPHY OF INDIA PART-I)

- To comprehend the physiographic and human scenario about India in general and North East India in particular

UNIT: 3
MARKS: 16X 3+ 12= 60
LECTURES: 10 X 3 = 30

PAPER GGRM 502: PRACTICAL (CARTOGRAMS AND PROJECT REPORT)

- To inculcate the skill of quantitative aptitude in human and economic phenomena

UNIT: 3
MARKS: 12X2+8+8=40
LECTURES: 10X 2=20

PAPER GGRM 503: THEORY (REGIONAL GEOGRAPHY OF THE WORLD PART-I)

- To develop geographical scenario of a few continents in geographical perspective

UNIT: 3
MARKS: 16X 3+ 12= 60
LECTURES: 10 X 3 = 30

PAPER GGRM 504: PRACTICAL (SLOPE ANALYSIS AND DIAGRAM)

- To develop skill for diagrammatic presentation of surface topographic details

UNIT: 3
MARKS: 12X2+12+8= 40
LECTURES: 20

PAPER GGRM 505: THEORY (POLITICAL GEOGRAPHY AND GEOPOLITICAL ISSUES)

- To develop idea of geopolitical aspects of the world and the role of space on polity and regional and global strategy

UNIT: 2

MARKS: 16X 3+ 12= 60

LECTURES: 10 X 3 = 30

PAPER GGRM 506: PRACTICAL (POLITICAL GEOGRAPHY AND REGIONAL GEOGRAPHY)

- To develop skills regarding diagrammatic presentation on issues on political and regional planning

UNIT - 3
MARKS - 12X2+12+8= 40
LECTURES: 20

PAPER GGRM 507: THEORY (REGIONAL PLANNING & SOCIAL GEOGRAPHY)

- To familiarize the students with the Geographical factors affecting organization and development of geographical space for human and regional development.
- To enhance an awareness on multi-dimensional knowledge of regional space and resultant structure.
- UNIT - 3
- MARKS - 12X2+12+8= 40
- LECTURES: 20

PAPER GGRM 508: PRACTICAL (Cartograms and quantitative analysis &network analysis)

- To develop skill regarding the representation of statistical data
- UNIT - 3
- MARKS - 12X2+12+8= 40
- LECTURES: 20

PAPER GGRM 601: THEORY (MAP PROJECTIONS AND CARTOGRAPHIC METHODS)

- To familiarize the students with the history of map projections and methods including its development and change through time. Besides this the course is also aimed at to acquaint the students with the basic knowledge of surveying and leveling and modern cartographic methods which may help the students in their practical studies.

UNIT: 3
MARKS: 16x3+12=60
LECTURES: 10X3=30

PAPER: GGRM 602: PRACTICAL (MAP PROJECTIONS)

- To acquaint the students with suitable graticules to draw maps for area projection

UNIT: 3
MARKS: 12X2+8+8=40
LECTURES: 30

PAPER GGRM 603: REGIONAL GEOGRAPHY OF INDIA (PART-II)

- To comprehend the idea regarding the socio-economic structure of India in general and Northeast India in particular.

UNIT: 3
MARKS: 16X3+12=60
LECTURES: 30

PAPER: GGRM 604: PRACTICAL (Imagery interpretation)

- To develop aptitude among the students regarding the use of modern techniques like interpretation and comparison of satellite imagery.

UNIT: 3
MARKS: 16+16+8=40
LECTURES: 20

PAPER: GGRM 605: REGIONAL GEOGRAPHY OF THE WORLD (PART II)

- To introduce the students with the geographical aspects of the three continents viz, Africa, Oceania and Europe

UNIT: 3
MARKS: 16X3+12=60
LECTURES: 10X3=30

PAPER: GGRM 606: PRACTICAL (Pattern Analysis)

- To develop skills regarding the use of modern techniques like interpretation and comparison of satellite imagery
- To familiarize with the statistical data analysis and presentation

UNIT: 3
MARKS: 12X2+8+8=40
LECTURES: 20

PAPER: GGRM 607: THEORY (GEOGRAPHIC THOUGHTS AND QUANTITATIVE METHODS)

- To introduce with the history of geographical thoughts

- To inculcate the aptitude for using contemporary quantitative methods and techniques

UNIT: 2
MARKS: 24X2+12=60
LECTURES: 15X2=30S

PAPER: GGRM 608: PRACTICAL (SURVEYING AND LEVELING)

- To acquaint the students with surveying and leveling instruments in the purpose of finding out horizontal and vertical topographical details of an area

UNIT: 3
MARKS: 12X2+8+8= 40
LECTURES: 20

CORE

PAPER GGRG-501: THEORY (ECONOMIC GEOGRAPHY)

- To introduce with the economic activities in different ecological settings of the region
- To acquaint with industrial resources of the world

UNIT- 2
MARKS- 48+12=60
LECTURES- 10x3=30

PAPER GGRG-502: PRACTICAL

- To familiarize with the basic quantitative techniques in geographical study
- To develop skill in cartographic representation

UNIT- 3
MARKS- 32+8=40
LECTURES- 10+10=20

PAPER GGRG- 601: THEORY (REGIONAL GEOGRAPHY OF THE WORLD)

- To introduce the geographical settings of Asia and Europe with special emphasis on population distribution

UNIT- 2
MARKS- 48+12=60
LECTURES- 15x2=30

PAPER GGRG-602: PRACTICAL (THEMATIC MAPPING AND FIELD REPORT)

- To familiarize with the political settings of South East, Middle and South Asia with special emphasis on India
- Preparation of thematic map on different topic
- To develop skill of preparation of a report on the field data

UNIT- 3
MARKS- 32+8=40
LECTURES- 20

DEPT. OF HISTORY

PROGRAMME, PROGRAMME SPECIFIC AND COURSE OUTCOME OF B.A. (CBCS) COURSE

Programme Outcome

- The CBCS UG programme will make the students equipped to appear at all India-level competitive examinations.
- The programme will enhance the students' access to the current job market.
- This academic programme will make the students familiar with the existing trends in research methodology.
- Possess the knowledge of basic human values and multicultural society.
- Capability to assume leadership quality.
- Establish a platform over which the student can pursue higher study in history.

Programme Specific Outcome

- Examine evidences from historical sources.
- Demonstrate knowledge of the chronology.
- Build up research skill.
- Analyse and interpret the major historical development.
- Develop logical and convincing arguments.
- Assume proficiency in foreign language.

Course Outcome

Honours

101: History of India-I

- Analyse the various source materials for the reconstruction of ancient Indian history.
- Analyse the tools of historical reconstruction.
- Concept of various ancient cultures.
- Aspect of technological, economic, political, religion and philosophy of ancient India.
- Idea of cultures in transition.

102: Social Formations and Cultural Patterns of the Ancient World

- Discussion of the evolution of mankind and the beginning of food production.
- Concept of Bronze Age civilisation.
- Idea of nomadic groups in Central and West Asia.
- Concept of Agrarian economy and urbanisation in ancient Greece.
- Cultural ideas of ancient Greece.

103: History of India-II

- Acquaint the students with Agrarian economy.
- Concept of the process of State formation.
- Concept of social stratification.
- Idea of religion, philosophy and society.
- A brief of cultural developments.

104: Social Formations and Cultural Patterns of the Medieval World

- Acquainted with the Roman Empire and economy, culture, religion and trade in ancient Rome.
- Idea of crisis of the Roman Empire.
- Concept of economic developments in Europe from the 7^{th} to the 14^{th} centuries.
- Concept of religion and culture in medieval Europe.
- Discussion of societies in Central Islamic lands.

105: History of India-III (c.750-1206)

- Acquire knowledge about the sources for the reconstruction of early medieval Indian history.
- Information regarding political structure and social and religious institutions.
- The Agrarian structures and social change of the period.
- Trade and commerce, guilds and process of urbanisation.
- Religious and cultural developments.

106: Rise of the Modern West-I

- Acquire the knowledge of the transition from feudalism to capitalism.
- Concept of renaissance.
- Idea of European reformation in the 16^{th} century.
- Economic developments in the 16^{th} century.
- Emergence of European State system.

107: History of India-IV (c.1206-1550)

- Interpreting the Delhi Sultanate.
- Sultanate political structures.
- Emergence of provincial dynasties.
- Society and economy.
- Religion, society and culture.

108: Rise of the Modern West-II

- Knowledge about the 17^{th} century European crisis.
- The scientific development from 15^{th} to 17^{th} century.

- Growth of parliamentary democracy.
- European politics in the 18th century.
- Political and economic issues of the American and industrial revolution.

109: History of India-V (c.1550-1605)

- Information regarding the Persian sources and vernacular literary traditions.
- The growth and consolidation of the Mughal Empire.
- Mughal policies in the North West Frontier and the Deccan.
- The land rights and revenue system, agriculture, trade under the Mughals.
- Political and religious ideas of the period concerned.

110: History of India-VI (c.1605-1750)

- An idea about the various sources and historiography of the Mughal period.
- Expansion of the Mughal rule, the Sufi orders.
- State and religion under Aurangzeb; issues in the war of succession; policies regarding Religious groups and institutions.
- Patterns of regional politics.
- 18th century debate.

111: History of Modern Europe-I (c.1780-1939)

- Acquired the knowledge of the various factors that led to the French Revolution.
- The art and culture of the Revolution.
- Capitalist industrialisation and social and economic transformation in the late 18th century.
- Ideas about the World War I.
- Varieties of nationalism and the remaking of States in the 19th and 20th centuries.

112: History of India VII (c.1750-1857)

- Examine the transition of India into Colonial domain.
- Colonial State and ideology.
- Rural economy and society.
- Trade and industry.
- Popular resistance.

113: History of India-VIII (c.1857-1950)

- Endeavour to highlight the growth of Indian nationalism.
- Cultural changes and social and religious reform movements.
- Ideas of Gandhian nationalism.
- Concept of nationalism and social groups
- Discussion on the transition from the Colonial to the Post-Colonial era.

114: History of Modern Europe-II (c.1780-1939)

- Acquaint the students with liberal democracy, working class movements and socialism in the 19th and 20th centuries.
- The crisis and Feudalism in Russia and experiments in Socialism.
- Knowledge on Imperialism.
- Post 1919 political development.
- Cultural and intellectual developments since 1850.

Discipline Specific Elective

501: Early and Medieval Assam Upto 1826

- Outline the state formation of early and medieval Assam.
- Analyse the geographical, political and social condition of the Brahmaputra valley.
- Examine the political development of the Ahom Kingdom.
- Importance of Ahom system of administration.
- Explain the decline of the Ahom Kingdom.

502: History of Modern Assam (1826-1947)

- To understanding the students about the various aspects of changes and development of the political life in Assam during colonial period.
- Importance of the colonial administration.
- To establishing a link of present time with those developed from (1826-1947).

601: Social and Economic History of Assam

- Acquaint the socio-economic condition of ancient Assam.
- Explain the social organization and religious beliefs in medieval Assam.
- Importance of economy in medieval Assam.
- Assess the development of modern, agriculture, industries and transport system.
- Analyse the development of modern education, literature and press.

602: Historiography

- To introduce the students about the basics of the discipline of history.
- To acquaint the students to the understanding of its sources in their various forms.
- Interpret the Indo-Islamic Historical Tradition and Regional Traditions.
- To acquaint the student with different forms of sources of ancient Indian History as well as Medieval Assam History.
- To analyse the sources of history.

Generic Elective

GE1: History of Assam 1228-1826

- Outline the history of Assam from the 13th century to the occupation of Assam by the English East India Company.

- Acquaint the student with the major stages of developments in the political, social and cultural history of Assam during the medieval times.

GE2: History of India from the Earliest Times to 1526

- To acquaint the student with the general outline of the different forms of sources of history of Ancient India & Medieval India.
- To acquaint the student with the general outline of the history of India from the earliest times to the coming of the Mughals to India in the 1st quarter of the 16th century AD.
- To explain the idea of the developments of all spheres of life during that period.

GE3: History of India: 1526- 1947

- To acquaint the students with the political condition of India in the 1st half of the 16th century AD.
- To outline the general course of events in the field of political , social , cultural & economics affairs in India from the foundation of the Mughal empire in 1526 till independence in 1947.

GE4: History of Europe (1453-1815)

- Distinguish the major trends in Europe which ushered in the modern age.
- Explain the colonial establishment.
- Compare the political development in Europe
- Relate the economic development in Europe.
- Assess the European policies in 1815.

Skill Enhancement Course

303: Museums and Archives in India

- It aims to familiarize students with various aspects of museums and archives.
- Introduce, examine and understand the major concepts of museums and archives.

404: Tourism in Assam

- To define regarding meaning, nature, significance, characteristics, types, products and planning of Tourism.
- To acquaint the student with sustainable tourism, environmental impacts of Tourism and relation among tourism activities, ecology and environment.
- Summarise the Geography and History of Assam.
- Explain places of tourism attraction in Assam.

B.A.(Hindi)(AECC+GEC)(CBCS)

M.D.K.G.College, Dibrugarh (Assam)

Date: 8th August 2020

Programme outcome:

The B.A. programme will help the students in their future endeavors as this programme:

- Helps the students to be responsible and dutiful citizens.
- Develops a sense of social service among the students.
- Enriches the active and passive vocabulary of the students.
- Enables the students to write analytically in a variety of formats, including essays, reflective writing, and critical reviews of secondary sources.
- Enhances the students' access to the current job market and gives them an opportunity to pursue their career in media, editing, teaching, theatre and other similar sectors.

Programme specific outcome:

After the completion of B.A.(Hindi)(AECC+GE) programme, the students will be able to:

- Create a strong foundation of studying future course of literature.
- Enhance their ability to speak and write clearly in standard academic Hindi.
- Gather knowledge and understand the basic idea of poetry (Prachin and Adhunik), Katha Kahani, Nibandh, etc.
- Edit books, magazines and Newspapers.
- Become a professional proof-reader or reporter in News agencies and thus the course of study is building proficiency required for getting employed in different fields.
- Get wide exposures to the various literatures of India and to critical theories covering the most recent trends in different fields of literature and cultural studies.
- Think critically various issues and subject matters and relate the same with real life situations.

Course outcomes:

1. **BA 1st semester (AECC-1)**

   Paper name: Prachin Kavya, Adhunik Kavya, Kahani, Nibandh

   After completion of this course, students will be able to:

- Write and appreciate different types of stories in Hindi literature.
- Understand the basic elements of Prachin and Adhunik Kavya.(poetry)
- Understand the contributions of the satirists and humorists of modern Hindi Literature.
- Get a glimpse of the life stories and the literary works of the poets, storywriters and essayists.
- Equip themselves with a philosophical outlook to engage creatively and conscientiously with social issues specific to the Indian context.
- Understand the cultural unity of India.

2. **BA 1st semester (GEC-1)**
Paper name: Adhunik Bharatiya Kabita

After completion of this course, students will be able to:

- Enhance interest to learn and read poetry.
- Get an introduction to modern Indian literature with examples of literary works in Assamese, Bengali, Urdu, Kashmiri, Gujarati, Tamil, Sanskrit, etc.
- Learn about the life stories of the poets who have contributed to modern Indian literature with their works.
- Understand the writing styles of the poets of various languages.

3. **BA 2nd semester (GEC-2)**
Paper name: Sampadan Prakriya Aur Saaj Sajja

After completion of this course, students will be able to understand:

- The definition, concept, aims and types of editing.
- Basic principles of editing.
- Qualifications, responsibilities and importance of Editor and Deputy Editor.
- Planning and editing of various columns of newspapers and magazines.
- The methods of writing, editing and designing newspaper.
- The process of editing photos, cartoon, sketches, graphics, etc.
- Main elements and techniques of editorial writing.
- Various methods of printing.
- Different forms of writing in media.

Dr. Adity Saikia
Associate Professor and HOD (Hindi Department)
M.D.K.G.College
Dibrugarh
Assam

Department of Home Science

Programme Outcome (PO)

PO1: To understand and appreciate the role of Interdisciplinary sciences in the development and well-being of individuals, families and communities.

PO2: To learn about the sciences and technologies that enhance quality of life of people.

PO3: To acquire professional and entrepreneurial skills for economic improvement of the student in particular and community in general.

PO4: To develop professional skills in food, nutrition, textiles, housing, product making, communication technologies and human development.

PO5: To take science from the laboratory to the people.

Programme Specific Outcome

PSO1: To enable the students acquire the knowledge and skills required for holistic understanding of the field of Home-Science discipline.

PSO2: To develop students knowledge to teach and practice Home-Science in relevant setting.

PSO3: To achieve wholesome interpersonal relationship.

PSO4: To establish values which make personal, family and community living meaningful.

PSO5: To aware the use of resources to satisfy needs.

PSO5: To create competent and skilled professionals to work in the areas of Home-Science.

Course Outcome

1st SEM

C.B.C.S. Programme

Code: HSCH-CC1101

Title – Human development 1: The

Childhood Years (T)

Core: (Theory)

Credit: 4

1. Understand the history and nature of human development.
2. Gain knowledge on growth and development from conception to childhood.

Code: HSCH – CC1102
Title: Human development 1: The childhood years (P)

Core (Practical)
Credit: 2

Code: HSCH – CC1103
Title: Food and Nutrition (T)
Core (Theory)
Credit: 4

1. Understand the functions of food, role, requirements and effect of nutrients.
2. Acquaint knowledge about methods of cooking, nutrient losses in cooking.

Code: HSCH – GE1101.

Title: Human Nutrition (T)

GE (Theory)

Credit: 4

1. Understand the physiological, psychological and social functions of food.
2. Gain knowledge on nutrition during life cycle, on deficieny and excess consumption of nutrients on health.

Code: HSCH – GE1102

Title: Human Nutrition (P)

GE (Practical)

Credit: 2

2nd Sem

Code: HSCH – CC2101

Title: Resource Management (T)

Core (Theory)

Credit: 4

1. Know the wise use of resources.
2. Aware of role of successful financial management in satisfying family living.

Code: HSCH – CC2102
Title: Resource Management (P)
Core (Practical)
Credit: 2

Code: HSCH – CC2103
Title: Dynamic of Communication and Extension (T)
Core: (Theory)
Credit: 4

1. Acquaint with different extension programmes
2. Understand the process of organizing people for their own development.

Code: HSCH – CC2104

Title: Dynamics of Communication and Extension (P)

Core: Practical

Credit: 2

Code: HSCH – GE1103

Title: Care and well-being in Human Development (T)

GE - Theory

Credit: 4

1. Gain knowledge regarding care and well-being at different stages of life.
2. Understand politics, services and progranes for well-being of himan life.

Code: HSCH – GE1104

Title: Care and well-being in Human Development (P).

GE (Practical)

Credit: 2

3rd Sem

Code: HSCH – CC3101

Title: Introduction to Textiles (T)

Core (Theory)

Credit: 4

1. Gain knowledge regarding clothing, different textiles.
2. Recognize their true potential and develop their aptitude in their area of expertise.

Code: HSCH – CC3102
Title: Introduction to Textiles (P)
Core: Practical
Credit: 4

Code: HSCH – CC3103
Title: Communication System and Mass Media (T)
Core: Theory
Credit: 4

1. Gain knowledge regarding communication system.
2. Understand, concept, significance, functions and elements of Mass Communication.

Code: HSCH – CC3104
Title: Communication System and Mass Media (P)
Core: Practical
Credit: 2

Code: HSCH – CC3105
Title: Personal Finance and Consumer Studies (T)
Core: Theory
Credit: 4

1. Develop role of Financial Management in satisfying family living.
2. Gain knowledge on Consumer Education, rights, responsibilities and consumer problems in India.

Code: HSCH – CC3106
Title: Personal Finance and Consumer Studies (P)
Core: Practical
Credit: 2

Code: HSCH – GE1105
Title: Gender and Social Justice (T)
GE: Theory
Credit: 6

1. Enable to understand the gender issue
2. Know the gender laws, media, politics and programmes for female, children and women.

4th Sem

Code: HSCH – CC4101
Title: Human Development 2: Development in Adolescence and Adulthood (T)
Core: Theory
Credit: 4

1. Understand Human Development. (Adolescene and Adulthood)
2. Analysis of the socio-emotional and cognitive changes throughout adulthood.

Code: HSCH – CC4102
Title: Human Development 2: Development in Adolescence and Adulthood (P)
Core: Practical
Credit: 2

Code: HSCH – CC4103
Title: Nutrition: A Life Cycle Approach (T)
Core: Theory
Credit: 4

1. Aware of importance of nutrition during different stages of life
2. Gain Knowledge about nutrition for some social conditions.

Code: HSCH – CC4104
Title: Nutrition: A Life Cycle Approach (P)
Core: Practical
Credit: 2

Code: HSCH – CC4105
Title: Fashion Design Concept (T)
Core: Theory
Credit: 4

1. Gain knowledge regarding specific skills related to fashion designing, fashion illustration, fashion styling, design and garment construction.

Code: HSCH – CC4105
Title: Fashion Design Concept (P)
Core: Practical
Credit: 2

Code: HSCH – GE1106
Title: Child Rights and Social Action (T)
Core: Theory
Credit: 6

1. Gain knowledge on child rights and social action about various vulnerable groups.

5th Sem

General Programme
(Major)
Code-HSCM-501
Title - Family Nutrition (Theory)
Marks-100

1. Understand the functions and sources of nutrients, meal planning, balanced diet.

Code-HSCM-502
Title – Dietetics and Dietary Management (Theory)
Marks-100

1. To enable students to plan and prepare therapeutic diet
2. To train the students to provide dietary consultancy in various settings.

Code-HSCM-503
Title – Family Resource Management (Theory)
Marks-100

1. To enable students to develop the role of successful financial management in satisfying family living.

Code-HSCM-504
Title – Family Resource Management (Theory)
Marks-100

General Paper
Code – HSCG-501
Title – Clothing and Textile (Theory)
Marks – 60

1. Impart knowledge on different textile finishes, importance and selection of clothing
2. Acquaint with basic principles of dying and printing, care of clothing.

Code – HSCG-502
Practical
Marks – 40

6th Sem MAJOR

Code - HSCM-601
Title - Family Clothing and Construction (Theory)
Marks-100

1. To enable the students to develop skills in dress making.
2. To make aware of consumer problems in textile and clothing.

Code - HSCM-602
Title – Life Span Development and Children with special needs. (Theory)
Marks – 100

1. To appreciate the special needs of children bwith different disability and disorders.
2. To gain knowledge about their prevention and treatment.

Code - HSCM-603
Title – Life Span Development and Children with special needs. (Theory)
Marks – 100

1. To enable students to understand the process of organizing people for their own development.

2. To acquaint the students with different extension programmes.

General Paper

Code - HSCG – 601
Title – Extension Education (Theory)
Marks – 60

1. To enable the student to understand the process of organizing people for their own development.
2. To acquaint the students with different extension programmes.

Code - HSCG – 602

Practical

Marks – 40

Name of Department: MATHEMATICS
Name of Program: Under Graduate Course in Mathematics for B.A./B.Sc. (Honours)
(Choice Based Credit System)

Programme Outcome:

On successful completion of three year degree course with Mathematics as Honours or Generic Electives, the students will be enriched with the knowledge to:

- apply Mathematics as a tool to solve problems of other disciplines viz., science and technology, commerce and management, humanities, soft-computing etc.
- develop new techniques/methods for solving the unsolved problems of other disciplines.
- construct Mathematical models to mimic real life problems and make their prediction, estimations and regression.
- pursue higher studies for academic upliftment.

Course Outcomes

Semester	Course code	Title of Course	Course outcome
I	C1	Calculus	Acquire knowledge to • formulate mathematical models. • apply calculus in real life problems. • handle mathematical software.
	C2	Algebra	Become acquainted with • various algebraic structures on set. • the algebraic structures present in different branches of sciences.
	GE-I	Differential Calculus/Object Oriented Programming in C++ (with practical)/Finite Element Method	Learn to • determine differentiation of functions, tangent, normal, curvature, asymptotes etc. • write C-programmes to solve mathematical problems and design algorithms to solve problems. • describe finite element methods and solve differential equations using finite element methods.
II	C3	Real Analysis	Develop efficiency to • identify the properties of number system. • describe various analytical properties of real number system.

	C4	Differential Equations	Build skill to • use the various techniques to solve differential equations. • apply differential equation techniques in various mathematical models used in real life problems.
	GE-2	Differential Equations / Econometrics	Gain efficiency to • describe various methods for solving differential equations. • design models and solve problems related to economic issues.
III	C5	Theory of Real Functions	Obtain clear understanding in • limit, continuity and differentiability of real valued functions. • expansion of functions in series with different form of remainders.
	C6	Group Theory I	Grow skill to identify • various group structures on set . • group structures present in different branches of sciences.
	C7	PDE and Systems of ODE	Gain understanding of • making mathematical formulations and their solutions of various physical problems. • designing mathematical models used in heat and wave.
	SEC-1	Logic and Sets/Computer Graphic	Learn to • differentiate logical statement and ordinary statement; analyze the truth and falsity of logical statement; define and describe various properties of set. • identify the core concepts of computer graphics ; apply graphics programming techniques to create and design computer graphics scans.
	GE-3	Real Analysis/ Cryptography and Network Security/ Information Security	Earn abilities to analyze • various properties of number line and real number system. • the principle of Cryptography; the structure and organization of complex network. • network security and data integrity.

IV	C8	Numerical Methods	Build base on • various numerical methods and interpolation formulae. • various numerical techniques for solving differential equations.
	C9	Riemann Integration and Series of Functions	Acquire understanding on • Riemann integration, Improper integrals, Differentiation and integration of power series.
	C10	Ring Theory and Linear Algebra I	Become acquainted with • various ring structures on sets. • solution of system of linear equations.
	SEC-2	Graph Theory/ Operating System: Linux	Develop concepts on • fundamental properties of Graph Theory and its different representations in practical field. • the processing in Linux operating system.
	GE-4	Algebra/ Application of Algebra/ Combinatorial Mathematics	Build foundation on • algebraic structures on sets present in different branches of sciences. • solution of system of linear equations. • counting principles and use of combinatorial approach in solving algebraic problems.
V	C11	Multivariate Calculus	Gain ability to • extend the concepts from one variable calculus to function of several variables. • analyze critically and solve applications of real-world problems involving double/ triple integrals.
	C12	Group Theory II	Increase efficiency in • solving contemporary problems from the results of preliminary concepts of algebra. • communication theory, electrical engineering, computer science and cryptography.

	DSE-1	Analytical Geometry/ Portfolio Optimization/ Financial Mathematics	Strengthen the concepts of • sketching parabola, ellipse and hyperbola, and solving various geometrical problems analytically. • portfolio optimization and its application to real-world problems. • building quantitative models of financial mathematics/ industries and application of models to obtain information of practical value in financial mathematics.
	DSE-2	Mathematical Modelling/ Mechanics/ Number Theory/ Bio-Mathematics/ Industrial Mathematics	Strengthen the understanding in • solving differential equations and linear programming problems used in mathematical modelling. • moment of a force and couple, general equation of equilibrium, and solution of problems related to translation and rotation of rigid bodies. • obtaining solutions of Diophantine Equations and number theoretic functions. • application of various models and techniques to study bio-mathematical real life problems. • use of various types of numerical methods to solve financial problems.
VI	C13	Metric Spaces and Complex Analysis	Obtain knowledge on • various properties of metric spaces. • complex number system and its differentiation and integration.
	C14	Ring Theory and Linear Algebra II	Gain ability to • apply proofs of theorems in solving real-world problems. • find the matrix associated with a linear transformation w.r.t. given bases and understand the relation between operations of linear transformation and corresponding matrices.

	DSE-3	Hydro-mechanics/ Linear Programming/ Discrete Mathematics/ Theory of Equations/ Dynamical Systems	Build foundation on • basic properties of fluid mechanics. • various optimization techniques applied to linear programming problems arising in real life scenario. • designing graph theoretic models of real life problems. • properties of algebraic equations. • qualitative properties of difference and differential equations.
	DSE-4	Mathematical Methods/ Boolean Algebra and Automata Theory/ Probability and Statistics/ Differential Geometry	Develop ability to • formulate and solve mathematical models on real world problems. • identify various properties of lattice and apply them in switching circuits. • characterize statistical techniques, identify statistical distributions with their related properties and analyze the mathematical theory of probability. • explain and discuss properties of space curves, surfaces, geodesics and algebra and calculus of tensors.

DEPARTMENT OF POLITICAL SCIENCE, M.D.K.G. COLLEGE (2020)
B.A. POLITICAL SCIENCE (CBCS)

Programme Outcome:

- To define political concepts and theories to develop ideological orientation towards the discipline.
- To explain, elaborate and evaluate political thought of western philosophers.
- To acquaint the students with the issues and dynamics of Indian politics.
- To assess the importance of public administration and evaluate its relationship with people.
- To illustrate the issues and theories of international relations in order to orient the students towards occurrences and changes taking place in the international sphere.
- To introduce the students with the diverse political systems of the world to make comparative study of the diverse processes.
- To build up proper political perspectives to define, explain and analyse the diverse socio-political issues of the North-East India with specific reference to Assam.
- To elaborate and estimate the main traditions of Indian political thinking to political thought.
- To examine the evolution, development and trends of India's Foreign Policy.
- To explain the basics of international law and analyse the various developments of the realm of international law.
- To create proper understanding of rural development and construct ideas and policies for developing the rural people and areas.
- To outline the various issues related with Indian Foreign Policy and estimate the effectiveness of Indian Foreign Policy.
- To understand the meaning and value of human rights so that these can be applied to create an egalitarian society.
- To understand concept of governance in the context of the globalizing world.
- To introduce the developmental process and strategy, to interrogate and challenge the development paradigm and their bearing on the democratic voice of citizens.
- To provide a theoretical and practical understanding of the concepts and methods that can be employed in the analysis of public policy and seek an

integrative link to their understanding of political science, economic theory and the practical world of development and social change.

- To introduce the historical legacies and geopolitics of South Asia as a region, imparting an understanding of political regime types as well as the socio-economic issues of the region in a comparative framework.

Program Specific Outcome (Core Course)

Semester I

1.1 Paper-I: Understanding Political Theory

- To formulate idea of political theory, its history and approaches, and an assessment of its critical and contemporary trends.
- To understand traditions of political theory
- To analyse critical and contemporary perspectives in political theory and practice

1.2 Paper II: Constitutional Government and Democracy in India

- Evaluates the background of the Indian Constitution.
- To explain and appraise organs of the government and to elaborate centre-state relations.
- To study Decentralization and Local self-government.

Semester II

2.1 Paper III: Political Theory: Concept and Debates

- To encourage critical and reflective analysis and interpretation of concepts like freedom, justice, rights, multiculturalism and equality.
- To aid conceptual understanding of state.

2.2 Paper IV: Political Process in India

- Understand political parties and the party system.
- Familiarizes with political behavior in relation to elections and religious aspirations.
- Study religion, caste and politics.
- Know the changing nature of the Indian State.

3.1 Paper V: Introduction to Comparative Government and Politics

- Develops understanding of the concept of comparative politics, Euro centrism and Third World approaches to comparative politics.
- Learn the historical context of modern government.
- Study colonialism struggles and decolonization and its impact on government and politics.
- Develops idea on constitutional developments and political economy of Britain and U.S.A. and constitutional developments and political economy of Brazil, Nigeria and China.

3.2 Paper VI: Perspectives on Public Administration

- Encompasses public administration in its historical context with an emphasis on the various classical and contemporary administrative theories.
- Explores some of the recent trends, including feminism and ecological conservation and how the call for greater democratization is restructuring public administration
- Attempts to provide the students a comprehensive understanding on contemporary administrative developments

3.3 Paper VII: Perspective on International Relations and World History

- To equip students with the basic intellectual tools for understanding International Relations
- Students are introduced to different theories in International Relations like Classical Realism & Neo Realism, Liberalism & Neo-liberalism, Marxist Approaches and Feminist Perspectives
- To make students aware of the implicit Euro-centricism of International Relations by highlighting certain specific perspectives from the Global South

4.1 Paper VIII: Political Processes and Institutions in Comparative Perspective

- To train students in the application of comparative methods to the study of politics
- Understands concept of nation-state, process of democratization, federation and confederation

4.2. Paper IX: Public Policy and Administration In India

- Provides an introduction to the interface between public policy and administration in India. The essence of public policy lies in its effectiveness in translating the governing philosophy into programs and policies and making it a part of the community living.
- Deals with issues of decentralization, financial management, citizens and administration, social welfare, education, health, food and employment.

4.3 Paper X: Global Politics

- Introduces students to the key debates on the meaning and nature of globalization by addressing its political, economic, social, cultural and technological dimensions
- Offers insights into key contemporary global issues such as the proliferation of nuclear weapons, ecological issues, international terrorism and human security before concluding with a debate on the phenomenon of global governance

5.1 Paper XI: Classical Political Philosophy

- Familiarizes students with the manner in which the political questions were first posed
- Machiavelli comes as an interlude inaugurating modern politics followed by Hobbes and Locke.

5.2 Paper XII: Indian Political Thought-I

- Introduces the specific elements of Indian Political Thought spanning over two millennia.
- To provide a sense of the broad streams of Indian thought while encouraging a specific knowledge of individual thinkers and texts.
- To discuss in class with critical appreciation Rajadharma, Manu, Aggannasutta, Barani etc

6.1 Paper XIII: Modern Political Philosophy

- To learn modernity and its discourses, romantics and liberal socialist
- Radicals-I: Karl Marx and Radicals-II: Alexandra Kollontai

6.2 Paper XIV: Indian Political Thought-II

- To study reformist political thought- Rammohan Roy, Nationalist Political Thought- Gandhi, Thoughts for Social Change- Ambedkar, Thoughts of Cultural Nationalism- Iqbal and Savarkar

GENERIC ELECTIVE

Semester 1: Nationalism in India

- To study approaches to the study of nationalism in India, Reformism and Anti-Reformism in the Nineteenth Century
- To study nationalist politics, social movements and partition and independence

Semester 2: Feminism: Theory and Practice

- To explain contemporary debates on feminism and the history of feminist struggles
- Covers the history of feminism in the west, socialist societies and in anti-colonial struggles
- A gendered analysis of Indian society in domestic violence, rape, dowry, sexual harassment at workplace, right to property and customary versus constitutional law; gender relations in India: Family- Matrilineal and Patrilineal; Women and Work

Semester 3: Governance: Issues and Challenges

- To understand the importance of the concept of governance in the context of a globalizing world, environment, administration, development
- To study environmental governance, local governance and good governance initiatives in India

Semester 4: United Nations and Global Conflicts

Discipline Specific Elective-4 (DSE)

1. Human Rights in a Comparative Perspective

- Studies Human Rights and its institutional arrangements
- Learns Rights in National Constitutions, Issues of Human Rights and Structural Violence

2. Public Policy in India

- To provide a theoretical understanding of the concepts and methods in public policy and analysis
- Understand State and Public Policy, Global Financial Institutions and Public Policy in India, Nehruvian vision, Economic Liberalisation and recent developments in inclusive development and dis-investment

3. India's Foreign Policy in a Globalizing World

- Study the genesis, evolution and practice of India's Foreign Policy
- India's relation with the superpowers during the Cold War and challenges in post-cold war era
- India's relation with the SAARC countries
- Learn India in the Contemporary Multipolar World: India's role in the 21st century, India's role in the UN

4. Understanding South Asia

- To introduce the historical legacies and geopolitics of South Asia as a region, imparting an understanding of political regime types as well as the socio-economic issues of the region in a comparative framework.

Ability Enhancement Course (AE skill based)

1. Democratic Awareness with Legal Literacy

- To study institutions that comprise the legal system- the courts, police, jails and the system of criminal justice administration.
- To have a brief knowledge of the Constitution and laws of India, an understanding of the formal and alternate dispute rehearsal (ADR) mechanisms that exist in India, public interest litigation.

2. Legislative Practices and Procedures

- To acquaint the students broadly with the legislative process in India at various levels, introduce them to the requirements of people's representatives.
- To deepen students' understanding and appreciation of the political process and indicate the possibilities of making it work for democracy.
- To assess the budget process, types of media and their significance for legislatures and basics of communication in print and electronic media

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PROGRAMME ORGANIZED BY THE DEPARTMENT OF PHILOSOPHY, M.D.K.G. COLLEGE

FROM 1st JUNE 2021 TO 31st DECEMBER 2021

A BRIEF REPORT ON IT :

1.Celebration of World Philosophy Day 2021

The Department of Philosophy of M.D.K.G.College ,organized a lecture session on the occasion of World Philosophy Day 2021 on **18.11.2021**. on '*Radical Humanism and the Concept of Freedom of M.N.Roy'*.The session began with a welcome address by the Head of the Department of Philosophy,Dr.Rupali Majumder. Principal of the college Dr.Nibedita Phukan inaugurated it by speaking few words on the relevance of philosophy in every aspect of our life and she presided over the meeting.The vice-principal of the college, Dr.Anju Borah emphasized on the relation between literature and philosophy.Dr.UtpalSut,coordinator of IQAC of M.D.K.G.College,spoke on the need of philosophy in any branch of Academic study. Invited speaker Rupjyoti Das ,Associate Professor of Political Science (M.D.K.G.College) while speaking on the topic elaborated on concept of new humanism as advocated by M.N.Roy and she opined that Roy's concept was based upon natural reason and secular conscience. Faculty members of the different department and students attended the programme.The lecture was followed by interactive session with the invited lecture.

Faculty members and students were highly benefited by inter disciplinary approach of the lecture delivered by resource person.

2.An academic lecture on*'Values and Significance of Vedas and Upanisads;Value Aspect of Varnashrama Dharma of Aryan Society'*, organized by the department of Philosophy of M.D.K.G.College on **07/12/2021** through google meet. Resourse person of the lecture was Dr.PhirmiBodo,Assistant Professor Centre for study in social system ,school of social science of Jwaharlal Nehru University ,Delhi. Target group of the lecture was students of philosophy honours 3rd and 5th semester of our college. The invited speaker while speaking on the topic elaborately discussed about how misinterpretation of efficiency and capability based varna system led to closed casteism. She also mentioned the different perspectives of writing history and neutral perspective is the need of the hour to proper understanding of our past.

3.An academic lecture by Dr.SamikhyaGohain,AssistantProferror in the department of Philosophy of Cotton University on *'Philosophy of Existentialism with special reference to Jean Paul Sarte'* on **24/12/2021** through google meet. Target group :Students of philosophy honours of 3rd and 5th semester. The Invited speaker started with difference between Plato and Sarte ,elaborated basic philosophy of existentialism ,*'existence precedes essence', being -for-itself,being -in-itself,bad faith,nothingness,* freedom and responsibility and how existentialism turns to humanism. It was an excellent deliberation, touching all core aspects of Existentialism. Students interacted with some interesting question like resemblance between Charvaka Philosophy and Existentialism, metaphysical foundation of atheism.

This report is prepared by Dr.Rupali Majumder.

Course Objectives and Course Outcomes

SUBJECT: PHYSICS (CBCS)

CORE COURSES

Semetser: I

Course: PHYSICS-C-I (MATHEMATICAL PHYSICS – I)

Course Objectives:

1. Write a problem in Physics in the language of Mathematics.
2. Identify a range of diverse mathematical techniques to formulate and solve a problem in basic Physics.
3. Analyze some of the basic mathematical concepts and methods.
4. Apply the knowledge and understanding of these mathematical methods to solve problems in a number of elementary branches of Physics like mechanics, electromagnetic theory, statistical Physics, thermal Physics etc.
5. Learn computer programming and numerical analysis and know its role in solving problems in Physics.
6. Construct a problem in Physics computationally.

Expected Learner Outcomes: This course will

1. Develop the requisite mathematical skills of a student to understand the fundamental topics in Physics.
2. Develop the ability of a student to critically analyze a topic.
3. Prepare a student for more advanced topics in Physics by providing a solid grip over the fundamental concepts in Physics.
4. Demonstrate the use and importance of computational methods in Physics and enable a student to construct a Physics problem computationally

Semester: I

Course: PHYSICS-C-II (MECHANICS)

Course Objectives:

1. Understand the basic concepts and ideas in mechanics- e.g. motion, force and torque, mass and moment of inertia, linear and angular momentum, kinetic energy and potential energy etc. by parallel studies of linear dynamics and rotational dynamics.
2. Understand the basic conservation laws by studying them in various mechanical systems including collisions, oscillations, gravitational systems etc.
3. Analyze simple harmonic oscillator in detail
4. Study planetary motions as a central force problem.
5. Understand the concept of frame of reference, importance of relative transformations and invariance of laws of Physics.
6. Realize the consequences of non-inertial frame in our real physical world.

7. Know about the peculiar phenomena of special relativity which are not seen in Newtonian relativity and to understand the concept of space-time.

Expected learner outcome: This course will

1. Introduce the students to the basic concepts of mechanics.
2. Enable the students to understand conservation laws as they are the fundamental laws of nature and will help them in realizing a crucial phenomenon of nature- symmetry.
3. Enable the students to understand simple harmonic oscillator as it is a unique mechanical problem and will help them to understand the advanced treatment in quantum mechanics and modern Physics.
4. Develop knowledge of special relativity to understand relativistic formulation of modern theories.
5. Develop knowledge of mechanics which will help students in their everyday life.

Semester: II

Course: PHYSICS–C-III (ELECTRICITY AND MAGNETISM)

Course Objective: At the completion of this course, a student will be able to :

1. Gain basic knowledge of electricity and magnetism.
2. Understand the electrical and magnetic properties of matter in brief.
3. Understand the effect of electric field on magnetic field and the effect of magnetic field on current.
4. Understand the basic principle of the electrical circuit (AC) circuit and electrical networking.
5. Acquire the basic theoretical as well as experimental skill on electrical networking.

Expected learner outcome: This course will

1. Develop the basic theoretical knowledge as well as experimental skills of the students on electrical networking.
2. Train the students to handle and repair instruments based on electric and magnetic field effects.

Semester: II

Course: PHYSICS–C IV (WAVES AND OPTICS)

Course Objective: At the completion of this course, a student will be able to

1. Learn the basics of wave motion.
2. Know about the behavior of light due to its wave nature.
3. Identify and understand different phenomena due to the interaction of light with light and matter.
4. Analyze some of the fundamental laws and principles of light which is used in many important optical instruments.

Expected learner outcome: This course will

1. Enable the students to analyze different phenomena due to the interaction of light with light and matter.
2. Train the students to use different optical instruments.

3. Help the students to understand various natural phenomena using different apparatus in the laboratory.

Semester: III
Course: PHYSICS-C-V (MATHEMATICAL PHYSICS – II)

Course Objectives:

1. Write a problem in Physics (slightly more advanced than those in Mathematical Physics I) in the language of Mathematics.
2. Identify a range of diverse mathematical techniques to formulate and solve a problem in basic Physics.
3. Analyze some of the useful mathematical methods.
4. Apply the knowledge and understanding of these mathematical methods to solve problems in a number of fundamental topics in Physics.
5. Construct a problem in Physics computationally.

Expected learner Outcomes: This course will :

1. Develop the requisite mathematical skills to understand some of the fundamental topics (slightly more advanced than those in Mathematical Physics I) in Physics.
2. Develop the ability of a student to critically analyze a topic.
3. Prepare a student for more advanced topics in Physics by providing a solid grip over the fundamental concepts in Physics.
4. Enable a student to understand the use and importance of computational / numerical methods in Physics and enable a student to construct a Physics problem computationally.

Semester: III
Course: PHYSICS C-VI (THERMAL PHYSICS)

Course Objectives:

1. Develop knowledge on the classical laws of thermodynamics and their application
2. Use the knowledge of thermodynamics in various applications in allied fields like Materials science, Condensed matter Physics, Atmospheric Physics, Solar Physics, etc.
3. Probe questions in varied fields of Physics, chemistry and biology based on principles of Thermal Physics.
4. Use the concept of thermodynamics in real world experiences
5. Develop critical and analytical thinking of the student on thermodynamics and allied disciplines

Expected Learner Outcomes:

1. Apply the laws of thermodynamics in real world problems.
2. Conduct scientific problems and experiments on thermodynamics and allied disciplines.
3. Demonstrate a working knowledge of the physical principles in Thermal Physics.

Semester: III
Course: PHYSICS-C-VII (DIGITAL SYSTEMS AND APPLICATIONS)

Course objectives:

1. Know about the basic laboratory equipment electronics**.**
2. Understand basic digital electronics concepts and devices**.**
3. Analyze digital circuits.

Expected Learner outcomes: This course will enable a student to

1. Identify and understand digital electronic principles and systems.
2. Apply the knowledge to analyze and apply digital circuits in solving circuit level problems.
3. Build real life applications using digital systems.

Semester:IV

Course: PHYSICS-C-VIII (MATHEMATICAL PHYSICS-III)

Course Objectives:

1. Write a problem in Physics (slightly more advanced than those in Mathematical Physics I and II) in the language of mathematics.
2. Identify a range of diverse mathematical techniques/ideas to formulate, simplify and solve some problems in Physics.
3. Analyze some of the useful mathematical ideas and techniques.
4. Apply the knowledge and understanding of these mathematical methods to solve problems in a number of fundamental topics in Physics.
5. Construct a problem in Physics computationally and use simulations to design an experiment.

Expected learner Outcomes: This course will

1. Develop mathematical skills of a student to understand some of the fundamental topics (slightly more advanced than those in Mathematical Physics I and II).
2. Develop the ability of a student to critically analyze a topic.
3. Prepare a student for more advanced topics in Physics by providing a solid grip over the fundamental concepts in Physics.
4. Enable a student to understand the use and importance of computational/ numerical methods in Physics and to construct a problem computationally.
5. Help a student to pursue advanced studies in Physics.

Semester: IV

SICS-C-IX (ELEMENTS OF MODERN PHYSICS)

Course Objectives:

1. Understand the theoretical basis for the understanding of quantum Physics as the basis for dealing with microscopic phenomena.
2. Apply concepts of 20_{th} Century Modern Physics to deduce the structure of atoms.
3. Explain the wave-particle duality of the photon.
4. Analyze the structure of matter at its most fundamental.
5. Develop insight into the key principles and applications of Nuclear Physics.

Expected learner outcome: This course will enable the students to

1. Understand and appreciate the theory of modern physics

2. Develop the ability to apply it in solving simple problems in Quantum Mechanics (QM), structure of atoms, Laser, and Nuclear Physics.

Semester: IV

Course: PHYSICS-C-X (ANALOG SYSTEMS AND APPLICATIONS)

Course Objectives:

1. Know about the basics of semiconductor PN junction, its various types and its application to different electronic circuits.
2. Understand bipolar junction transistor and its applications as amplifier and oscillators.
3. Familiarize with operational amplifiers, its applications and analysis.
4. Develop knowledge about analog to digital and digital to analog conversion techniques

Expected Learner Outcomes: This course will enable the students to

1. Learn the foundation knowledge of analog electronic systems.
2. Learn the working and applications of PN junction and bipolar junction transistors (BJT).
3. Learn to analyze circuits containing PN junction and BJT along with the application of BJT as amplifiers and oscillators.
4. Develop basic knowledge of operational amplifier and its applications

Semester: V

Course: PHYSICS-C-XI (QUANTUM MECHANICS AND APPLICATIONS)

Course Objectives:

1. Know about the development of modern Physics and the theoretical formulation of quantum mechanics.
2. Know the applications of quantum mechanics in solving physical problems.

Expected Learner Outcomes: This course will enable students to

1. Learn how to apply quantum mechanics to solve physical systems in different areas of science.
2. Know about the physical behavior of materials.
3. Learn how the scientific behavior of materials can be used for human applications.

Semester: V

Course: PHYSICS-C-XII (SOLID STATE PHYSICS)

Course Objectives:

1. Familiarize with fundamentals of Solid State Physics.
2. Know about the structural, electronic and lattice vibration dependent behavior of solids.
3. Learn the basic concepts in hands on mode through laboratory experiments associated with the course.

Expected Learner Outcome: The course will

1. Equip a student with basic concepts of solid state Physics so that the knowledge can be applied for further development of the subject.
2. Enable a student to work in both theoretical and experimental aspects of solid state Physics.

3. Help the students in thorough learning of the concepts associated to the course through the laboratory experiments.

Semester: VI

Course: PHYSICS-C-XIII (ELECTROMAGNETIC THEORY)

Course Objectives: At the completion of this course, a student will be able to

1. Understand the physical and mathematical principles to provide in-depth analysis of the behavior of electricity and magnetism in matter.
2. Apply Maxwell's equations to explain the properties of the electromagnetic wave and its interaction with matter.
3. Analyze the principles and processes related to polarization, interference, and diffraction along with their applications to the development of wave-guide and optical fibers.

Expected learner Outcomes: This course will enable a student to

1. Solve problems relevant to interfaces between media with defined boundary conditions.
2. Use Maxwell's equations to describe the behavior of electromagnetic waves in vacuum as well as medium.
3. Describe states and methods of polarization and analyze the polarization state of a light source.

Semester: VI

Course: PHYSICS-C-XIV (STATISTICAL MECHANICS)

Course objectives:

1. Introduce the basic concepts of Statistical Mechanics so that students will be able to cope-up with higher level of such course in future.
2. Develop the critically thinking ability of students to understand the diverse physical phenomena.
3. Develop the interest and ability among students to solved challenging physical problems by the application of techniques of Statistical Mechanics in future.

Expected Learner Outcome: This course will

1. Equip the students with basic knowledge of the Statistical Mechanics and hence will be able to look critically for analyzing any physical phenomena.
2. Create interest to the subject to pursue further higher study in future.
3. Enable the students to solve any challenging physical problem in statistical mechanics.

Discipline Specific Electives (DSE)

Semester: V

Course: PHYSICS DSE –I (CLASSICAL DYNAMICS)

Course objectives:

1. Understand the underlying facts in the development of classical mechanics and the advantages of its formulation over Newtonian mechanics.
2. Describe mechanics of a system in terms of equation of motion.

3. Understand Lagrangian formulation and Hamiltonian formulation of mechanics and their applications in mechanical problems.
4. Study the theoretical analysis of systems oscillating with small amplitudes.
5. Observe the peculiar phenomena when transformed from Newtonian relativity to special relativity and to understand the concept of space-time.

Expected learner outcome: This course will enable the students to

1. Prepare for the study of modern Physics.
2. Develop basic theoretical ingredients necessary to study advanced theoretical courses like quantum mechanics.
3. Learn a number of mathematical techniques applicable to Physics problems in different areas.
4. Develop knowledge of special relativity which is essential to understand the relativistic formulation of modern theories

Semester: V

*Course: PHYSICS DSE -2 (PHYSICS OF DEVICES AND INSTRUMENTS)

Course Objectives:

1. Know about various devices like UJT, FET, MOSFET, CMOS etc. and its application to different electronic circuits.
2. Design rectifiers, passive and active filters, multivibrators etc.
3. Familiarize with the IC fabrication techniques.
4. Learn about digital data communication standards and also about communication systems

Expected learner outcome: This course will enable the students to :

1. Develop knowledge about various devices like UJT, FET etc. and to use these devices for different applications.
2. Design and analyze filter circuits, power supply FET amplifiers etc.
3. Develop the basic knowledge of IC fabrications, data communication standards and communication systems.

Semester: V

*Course: PHYSICS DSE -2 (ASTRONOMY AND ASTROPHYSICS)

Course Objectives:

1. Introduce the fundamental concepts of Astrophysics to the interested students.
2. Motivate students to pursue the further study in future in these challenging, fascinating and important fields of Physics.

Expected Learner Outcome: This course will

1. Equip the students with basic knowledge of the Astrophysics.
2. Create interest to the subjects of Astrophysics and to pursue further higher studies in the subject concerned in future.
3. Develop the critically analyzing ability, which may motivate the students to solve any challenging physical problem in future.

Semester: V

*Course: PHYSICS DSE -2 (PHYSICS OF EARTH)

Course Objectives:

1. Acquire knowledge on origin and evolution of the Earth and Universe
2. Acquire knowledge on structure, composition and dynamics of the Earth from crust up to space.
3. Understand the interaction among different components of the Earth.
4. Get familiar with the weather and climate systems, climate change.
5. Increase awareness of the scientific process of the Earth and its role in the exploration of the Universe.

Expected learner Outcomes: This course will enable the students to :

1. Develop critical and quantitative thinking of scientific issues related to the study of cosmology and Earth Sciences .
2. Understand the basic principles of various processes of the Earth.
3. Apply the acquired knowledge on the study of the Universe
4. Pursue career in Earth Sciences, Cosmology etc.
5. Understand the contemporary dilemmas on Earth and Environmental issues like climate change, air pollution, deforestation etc.

**Any one of the three to be chosen*

Semester: VI

Course: PHYSICS DSE -3 (NUCLEAR AND PARTICLE PHYSICS)

Course Objective:

1. Understand various concepts in Nuclear Physics.
2. Emphasize on the existing connections with other domains of Physics, in particular Quantum Mechanics, Mathematical Physics and Particle Physics.

Expected learner outcome: This course will enable the students to

1. Develop knowledge regarding nuclear and elementary particle as well as properties and phenomena related to them.
2. Successfully apply the same knowledge in solving problems in the field of nuclear and particle Physics.

Semester: VI

**Course: PHYSICS DSE -4 (NANO MATERIALS AND APPLICATION)

Course Objective:

1. Provide a systematic coverage and insight into the promising area of nano materials in order to facilitate the understanding of the nature and prospects for the field.
2. Provide information about various synthesis and characterization techniques of nano materials.
3. Discuss optical and electronic transport properties of nano materials.
4. Discuss applications of nano materials.

Expected learner outcome: This course will enable the students to

1. Gather sufficient knowledge about the fascinating behaviour of nanomaterials and tuning of such properties for different applications.
2. Obtain information on experimental methodologies with necessary theoretical background, which may be useful for pursuing further study on the areas of nanoscience and technology.

Semester: VI

**Course: PHYSICS DSE -4 (EXPERIMENTAL TECHNIQUES)

Course objective:

1. Enhance experimental knowledge.
2. Develop the theoretical as well as experimental knowledge of different instruments and instrumentation.
3. Enhance the knowledge of some measurement techniques and data and error analysis technique.

Expected learner outcome: This course will enable the students to

1. Develop the theoretical as well as experimental knowledge on different instruments and instrumentation.
2. Develop the knowledge of some measurement techniques and data and error analysis technique, which is very essential for a Physics student.
3. Handle different electrical network based instruments.

***Any one of the two to be chosen*

Ability Enhancement Courses

Semester: III

Course: Ability Enhancement Elective Course -1 (AEEC-1) (ELECTRICAL CIRCUITS AND NETWORK SKILLS)

Course Objectives:

1. Design and trouble shoot the electrical circuits, networks and appliances through hands on mode.
2. Build the basic foundation for learning electrical wirings and repairing of other house hold equipments.

Expected learner outcome: This course will enable the students to

1. Design and troubleshoot certain electrical circuits and domestic appliances along with the understanding of the working of those appliances.
2. Do electrical wiring and repairing. This knowledge will develop the skill of the students for various electrical repairing and servicing purposes.

Semester: IV

Course: ABILITY ENHANCEMENT ELECTIVE COURSE-2 (AEEC-2) (APPLIED OPTICS)

Course Objectives:

1. Learn about various optical devices, components and systems.
2. Familiarize with experiments related to optoelectronic devices.
3. Learn about Fourier transform spectroscopy, holography and various aspects of fibre optics.

Expected learner outcome: This course will enable the students to :

1. Acquire knowledge about various optoelectronic devices and their applications.
2. Understand the basics of Laser and their uses.
3. Understand about Fourier transform spectroscopy and will learn to use this technique for various purposes.
4. Learn the use of optical fibres and related informations.

GENERIC ELECTIVE COURSES

Semester: I

Course: PHYSICS-GE-1 (MECHANICS)

Course Objective:

1. Understand the basics of vector algebra and the techniques of solving ordinary differential equations.
2. Understand the basic components of mechanics- e.g. motion, force and torque, mass and moment of inertia, linear and angular momenta, kinetic energy and potential energy etc. and the conservation theorems.
3. Study the mechanics of gravitational systems and simple harmonic motion.
4. Study the elastic behaviour of materials.
5. Realize the idea of frame of reference and its implications in the study of special relativity.

Expected learner outcome: This course will enable the students to

1. Develop basic knowledge of mechanics as it is helpful to study any other course in science discipline.
2. Develop knowledge of vector algebra and differential equations which will help students in the study of theoretical courses in science.
3. Acquire useful knowledge about material science.
4. Explain the abstract idea of 4-dimensional world to students which are not from physics discipline.

Semester: II

Course: PHYSICS-GE-2 (ELECTRICITY AND MAGNETISM)

Course Objectives:

1. Understand basic knowledge of electricity and magnetism.
2. Understand basic knowledge of electrical and magnetic properties of matter in brief.
3. Understand the basic knowledge of the effect of electric field on magnetic field and the effect of magnetic field on current.
4. Understand the basic principle of the electrical circuit (AC) circuit and electrical networking.
5. Develop the basic theoretical as well as experimental skill on electrical networking.

Expected learner outcome: This course will enable the students to

1. Perform quantitative analyses of basic problems in Electrostatics and Magnetodynamics.
2. Apply Gauss's Law, Ampere's Law, and Biot-Savart Law to solving practical problems in electricity and magnetism.
3. Apply the fundamental laws of electromagnetism to solve problems of electrostatics, magnetostatics, and electromagnetic induction
4. Explain and analyze the behaviour of alternating currents in LCR circuits.
5. Perform and interpret the results of simple experiments and demonstrations of physical principles.
6. Solve problems relevant to interfaces between media with defined boundary conditions.

Semester: III

Course:PHYSICS-GE-3 (THERMAL PHYSICS AND STATISTICAL MECHANICS)

Course objectives:

1. Develop the working knowledge of the laws and methods of thermodynamics and elementary statistical mechanics.
2. Provide insight to the postulates of Statistical Mechanics and statistical interpretation of thermodynamics
3. Understand the laws of radiation and acquire knowledge for their applications in various disciplines in Physics, Chemistry, Biology, Earth and Atmospheric Sciences.
4. Develop application oriented knowledge on laws of statistical mechanics in selected problems
5. Use the methodologies, conventions and tools of thermal and statistical physics to test and communicate ideas and explanation

Expected learner Outcomes: This course will enable the students to

1. Apply laws of thermodynamics and statistical mechanics to a range of situations in real world problems.
2. Conduct scientific problems and experiments on thermodynamics and allied disciplines .
3. Demonstrate a working knowledge of the physical principles describing the thermal physics..
4. Explain thermal physics as logical consequences of the postulates of statistical mechanics

Semester: IV
Course: PHYSICS-GE-4 (WAVES AND OPTICS)

Course objectives:

1. Learn the basic ideas of the behaviour of light based on its wave nature.
2. Develop the knowledge of the different phenomena due to the interaction of light among them and with mater.
3. Learn about some fundamental principles of light which is used in different optical instrument which very essential for Physics student.

Expected learner Outcomes: This course will enable the students to

1. Justify different phenomena due to light and the interaction of light among them and with matter.
2. Use different optical instruments.
3. Produce different natural phenomena using different apparatus in the laboratory.

Physics (Non-CBCS)

Semster: V
PHYM-501 (Mathematical Physics-II)

After successful completion of this course the student is expected to

- **Define** a differential equation
- **Classify** different types of differential equations
- **Solve** ordinary differential equations of first and second order using different methods
- **Solve** problems involving special functions like Legendre's polynomials, beta, gamma and error functions
- **Define** complex variable, complex function and complex plane
- **Define** an analytic function, **calculate** singularities and **check** whether a function is analytic or not
- **Define** fourier series
- **Determine** fourier coefficients and apply fourier analysis to solve problems in physics

Semster: V
PHYM-502 (Electrodynamics and Special Theory or Relativity)

After successful completion of this course the students are expected to be able to:

- **Understand** the phenomenon of electromagnetic induction
- **Derive** the Maxwell's wave equations governing electromagnetic fields and forces.
- **Understand** and **explain** the physical significance of scalar and vector electromagnetic field potentials
- **Explain** the cause of radiations emitted by accelerated electric monopoles and dipoles
- **Analyse** the propagation of electromagnetic waves through free space or material medium
- **Explain** the polarisation of electromagnetic waves and their reflection and refraction at a plane surface
- **Describe** the Michelson-Morley experiment and the consequent development of Einstein's special theory of relativity
- **State** the postulates of Einstein's special theory of relativity

- **Calculate** length contraction, time dilation, relativistic mass and mass-energy interconversions

Semester: V
PHYM-503 (Atomic and Molecular Physics)

After successful completion of this course the students are expected to be able to:

- **Explain** the development of the quantum theory and Bohr's model of hydrogen atom
- **Understand** the designation of spectral term symbols
- **Describe** the vector atom model and **determine** the spectral terms arising from L-S coupling and j-j coupling of electrons
- **Explain** the origin of fine structure of hydrogen spectra and doublet spectra of sodium atom
- **Define** gyromagnetic ratio and Lande's 'g' factor
- **Describe** and **compare** the effects of weak and strong magnetic and electric fields on atomic spectra
- **Define** molecular spectra and list its different types
- **Describe** Rayleigh and Raman scattering and Raman effect
- **Acquire** basic concepts of laser and its common types

Semester: V
PHYM-504 (Electronics)

After successful completion of this course the students are expected to be able to:

- **Differentiate** between conductors, semiconductors and insulators on the basis of band theory of solids
- **Define** intrinsic and extrinsic semiconductors
- **Describe** the processes involving production of p-type and n-type extrinsic semiconductors
- **List** the different types of pn-junction diodes and transistors and their electrical and thermal characteristics
- **Design** and **analyse** different rectifier, amplifier and oscillator circuits
- **Acquire** basic ideas of integrated circuits and their fabrication processes
- **Design** circuits to perform certain mathematical operations
- **Understand** the basics of digital electronics and boolean algebra
- **Design** and **analyse** logic circuits

Semester: V
PHYM-505 (Laboratory-III)

After successful completion of this course the students are expected to be able to:

- To enhance the learning of scientific knowledge in the field of electronics,heat and thermodynamics, mechanics, optics, electricity
- Give insight into scientific method and develop expertise in using it

Semster: VI
PHYM-601 (Statistical Mechanics)

After successful completion of this course the students are expected to be able to:

- **State** the postulates of classical statistical mechanics
- **Explain** the concepts of different ensembles

- **Define** entropy from the point of statistical mechanics
- **Define** equilibrium condition, partition function and thermodynamic variables and **calculate** the partition function in simple cases.
- **Explain** the limitations of classical statistical mechanics and state the postulates of quantum statistical mechanics
- **Derive** the Fermi-dirac and Bose-Einstein distribution functions and their **relate** them with the Maxwell-Boltzmann distribution function
- **Apply** Fermi-Dirac statistics and Bose-Einstein statistics to study the cases of white dwarf stars and phenomenon of Bose-Einstein condensation

Semester: VI

PHYM-602 (Condensed Matter Physics)

After successful completion of this course the students are expected to be able to:

- **Explain** basic ideas of lattice and crystals, primitive lattice vectors, translational lattice vectors , unit vectors, two and three dimensional Bravais lattices, wigner- Seitz cell, Miller indices
- **Discuss** some simple crystal structures (SC, BCC, FCC, HCP etc)
- **Discuss** reciprocal lattice and its different properties, Brillouin zones, Bragg's diffraction condition and Ewald sphere.
- **State** electrical and thermal conductivity of metals and explain different theories (classical and quantum) related to electrical and thermal conductivity.
- **Explain** different types of bands present in solids and classify different solids on the basis of band theory.
- **Discuss** Kronig penny model and its important conclusions and the concept of effective mass
- **Discuss** different types of semiconductors and explain the conductivity of semiconductors in terms of mobility
- **Explain** the electrical and magnetic properties of superconductors , Meissner effect , types of superconductors and their different applications

Semester: VI

PHYM-603 (Nuclear Physics)

After successful completion of this course the students are expected to be able to:

- **Describe** the history of development of the present model of atomic nucleus
- **Describe** the methods probing the nuclear structure of atoms
- **List** quantum numbers of individual nucleus and quantum properties nuclear states
- **Define** nuclear angular momentum, nuclear magnetic dipole moment, binding energy of nucleus, mass defect, packing fraction and disintegration energy
- **Discuss** the liquid drop model and shell model of a nucleus
- **Explain** the mechanisms of nuclear reactions and processes such as spontaneous or induced radioactivity and nuclear fission and fusion
- **Describe** the design and working of particle accelerators, **list** their uses and **choose** the right kind based on their advantages and limitations
- **Define** and **identify** elementary particles
- **Describe** the discovery of cosmic rays
- **Acquire** basic ideas of leptons, quarks and gauge bosons

Semester: VI

*PHYM-604(A) (Astrophysics and Particle Physics)

After successful completion of this course the students are expected to be able to:

- **Discuss** basic concepts of astronomy and astrophysics and working principle of different optical telescopes

- **Demonstrate** an understanding of the basic properties of the Sun and other stars
- **Explain** stellar evolution, including red giants, super giants using evidence and presently accepted theories;
- **Detail** the main features and formation theories of the various types of observed galaxies, in particular the Milky Way;
- **Explain** the evolution of the expanding Universe using concepts of the Big Bang and observational evidence
- **Discuss** different types of elementary particles, their intrinsic properties and different types of conservation laws
- **Explain** four fundamental forces, quarks and gluons

Semester: VI
*PHYM-604(B) (Space and Atmospheric Physics)

After successful completion of this course the students are expected to be able to:

- **Understand** the composition and dynamics of atmosphere
- **List** the layers constituting the ionosphere
- **Understand** the solar activities and their effects on earth

Semester: VI
*PHYM-604(C) (Laser and its Applications)

After successful completion of this course the students are expected to be able to:

- **Understand** the theory and methods of producing lasers
- **Describe** different types of laser systems
- **Define** intensity, monochromaticity and coherence (spatial and temporal) of lasers
- **List** and **Describe** the uses of lasers

Semester: VI
*PHYM-604(D) (Material Science and Nanomaterials)

After successful completion of this course the students are expected to be able to:

- **Understand** the need of classification of materials from engineering point of view
- **Classify** engineering materials as organic, inorganic and biological
- **Acquire** basic ideas about advanced and smart materials
- **Select** the right materials for a given purpose based on their properties
- **Acquire** basic ideas about nanostructured materials like quantum dots, quantum wires and carbon nanotubes and **list** their industrial applications
- **Describe** the processes involved in synthesis of nanostructured materials
- **Describe** the methods used for characterisation of nanostructured materials

Semester: VI
PHYM-605(Laboratory)

- To enhance the learning of scientific knowledge in the field of electricity and electronics.
- Give insight into scientific methods and develop expertise in using it

PROGRAMME SPECIFIC OUTCOME -CBCS (SANSKRIT)

- Understand Sanskrit Literature and the concept of Indian Cultural Heritage
- Illustrate and compare the Vedic and Philosophical ideas in contemporary situation
- Analyze the relevance of Sanskrit in Present Society
- Build a character with strong moral sense
- Learn application of the different rules of Sanskrit Grammar
- Improve writing skill in Sanskrit
- Critical appreciation of different literature in Sanskrit

COURSE OUTCOME (Honours)

SNSC-101(C-1)

Classical Sanskrit Literature (Poetry)

- Acquaint students with Classical Sanskrit Poetry
- Appreciate the works of great poets like Kalidasa & Bharavi
- Estimate the moral/ethical values in Sanskrit poetry
- Know the origin and development of Sanskrit Mahakavyas

SNSC-102(C-2)

Critical Survey of Sanskrit Literature(Prose)

- Acquaint with the development of Sanskrit literature during Vedic & Puranic period
- Estimate the value of Ramayana & Mahabharata as a source of later literary compositions
- Know the cultural importance of the great epics
- Understand the Social, cultural & Historical importance of the Puranas
- Acquire the knowledge about the different schools of Sanskrit grammar, Indian Philosophy and Indian Poetics

SNSC-201(C-3)

Critical Survey of Sanskrit Literature(Poetry)

- Students acquaint with Prose romance & Fable literature
- Understand their importance in the development of Sanskrit literature

SNSC-202(C-4)

Self-Management in the Gita

- Identify and estimate the values of Shrimadbhagavadgita in modern context
- Apply the teachings therein in self-management

SNSC-301(C-5)

Classical Sanskrit Literature (Drama)

- Develop an appreciation of Sanskrit dramas
- Know the trend of the development of dramatic literature in Sanskrit
- Develop skill for critical analysis of the dramas

SNSC-302(C-6)
Poetics & Literary Criticism

- Introduce students with Sanskrit Poetics
- Acquaint with various views on the nature of Sanskrit kavyas
- Acquaint with the concept of Rasa, Power of word, Riti, Alamkara & Metre
- Develop capacity for creative writing and literary appreciation

SNSC-303(C-7)
Indian social Institutions & Polity

- Develop an idea about ancient Indian Social Institution
- Define the concept of Dharma
- Analyze the view of different cardinal thinkers
- Appreciate the ethical values enumerated in the ancient Sanskrit Texts

SNSC-401(C-8)
Indian Epigraphy, Palaeography & Chronology

- Acquire knowledge of Sanskrit Epigraphy
- Acquaint with the knowledge about societal condition prevailed during the time of composition of these writings
- Get Introduced with the art of Paleography
- Acquaint with the style of writing adopted by the Inscription writers

SNSC-402(C-9)
Modern Sanskrit Literature

- Acquaint with post classical and modern Sanskrit Litrature
- Learn to appreciate the modern trend of Sanskrit writing

SNSC-403(C-10)
Sanskrit & World Literature

- Know the appreciation of Sanskrit literature across the world
- Understand the importance of the language in the western as well as the South East Asian countries

SNSC-501(C-11)
Vedic Literature

- Acquaint the students with Vedic literature
- Understand the method of formation of words in Vedic Sanskrit
- Provides basic knowledge of the Vedic Philosophy

SNSC-502(C-12)
Sanskrit Grammar

- Acquaint with general Classical Sanskrit grammar

SNSC-601(C-13)
Indian Ontology & Epistemology

- Provide basic knowledge of Indian Philosophy
- Understand the Indian Concept of Ontology & Epistemology
- Acquaint with the technical term in Indian Philosophy

SNSC-602(C-14)
Sanskrit Composition & Communication

- Acquaint with the technique of Sanskrit Syntax
- Develop proficiency in Spoken Sanskrit
- Develop writing skill in Sanskrit

DSE-I
Fundamentals of Ayurveda

- Understand the basic principles and concepts of preventive medicine and health maintenance, diet & nutrition
- Know the usage of commonly used spices and herbs
- Outline the Ayurvedic therapeutic in Ayurveda

DSE-2
Art of Balanced Living

- Acquaint with the values inherent in Sanskrit Literature
- Learn to appreciate these values
- Apply them to live a better life
- Develop value-based work culture

DSE-3
Theatre & Dramaturgy

- Acquaint with the origin & development of traditional form of Sanskrit drama
- Develop knowledge about the technical aspect of Sanskrit Dramaturgy

DSE-4
Environmental Awareness in Sanskrit Literature

- Understand the importance of the messages inherent in Sanskrit literature reflecting concern for social well being
- Appreciate the values in eco-friendly thoughts in these literary works
- Learn to bring awareness on preservation and protection of the environment from ancient Indian cultural tradition

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Generic Elective

GE -1
Basic Sanskrit

- Acquaint with the basics of Sanskrit Grammar
- Develop writing skill in Sanskrit

GE -2
Indian Culture and Social Issues

- Acquaint with the history and background of Indian culture
- Understand the significance of Culture tradition of the country
- Develop respect for Indian Cultural tradition and concern about socio-cultural issues

GE -3
Fundamentals of Indian Philosophy

- Understand the basic concepts of Indian Philosophy
- Analyse the different principles of various philosophical systems

GE -4
Indian Aesthetics

- Introduce students with Sanskrit Poetics
- Define and illustrate various views on the nature of Kavya
- Acquaint with the concept of Rasa, Power of Word, Riti, Alamkara & Metre
- Develop capacity for creative writing and literary appreciation

PROGRAMME SPECIFIC OUTCOME OF B.Sc. (GENERAL) IN STATISTICS

- Understand basic concepts of statistics and its different branches.

- Analyze the applicability and use of statistics in various diverse fields.

- Develop knowledge of the various aspects of tools of descriptive statistics.

- Apply the tools and techniques in analyzing different types of real life data.

COURSE OUTCOME OF 1ST SEMESTER STATISTICS (GENERIC ELECTIVE)

STS-GE-1: STATISTICAL METHODS

- Introduce the student with a short historical development of the subject of statistics.
- Develop knowledge of the various aspects of descriptive measures.
- Explain the uses of bivariate data in statistics.
- Analyze categorical data with real life example.

PRACTICAL

- Acquaint students with diagrammatic and graphical representation of statistical data.
- Calculate various measures of descriptive statistics by using data to study their applications.

COURSE OUTCOME OF 2nd SEMESTER STATISTICS (GENERIC ELECTIVE)

STS-GE – 2: INTRODUCTORY PROBABILITY

- Understand basic concepts of probability and learn about the different approaches to the theory of probability.
- Explain the concept of random variable and its probability distribution.
- Illustrate basic aspects of standard probability distributions.

PRACTICAL

1. Fit binomial, Poisson and normal distributions to some given data sets to study their applicability.
2. Acquaint students with area property of normal distribution.

COURSE OUTCOME OF 3rd SEMESTER STATISTICS (GENEIC ELECTIVE)

STS-GE – 3: SAMPLE SURVEY

- Provide basic concept of population, sample & sampling;
- Understand the principles underlying sampling as a means of making inferences about a population;
- Define Simple random sampling, stratified random sampling and Systematic sampling and describe the implications of using them.

PRACTICAL

- Understand the methods of drawing simple random samples using random number table.
- Apply simple random sampling, stratified random sampling & systematic sampling and analyze data of using them.

COURSE OUTCOME OF 4th SEMESTER STATISTICS (GENEIC ELECTIVE)

STS-GE-4: BASICS OF STATISTICAL INFERENCE

- Prove core results in the theory of statistical estimation including different methods like MLE, Method of Moments;
- Construct parametric estimators and verify their optimality properties;
- Estimate intervals over which the population parameter could exist;

Course outcome

1st Semester Core Course 01 (Introduction to Sociology-I) Honours

This paper is introduced to students having different trainings and capabilities, so that they can think sociologically, develop sociological insight to social phenomena about the basic concepts and such insight may provide the basis to know more about them which are dealt in specialised courses of Sociology.

1st Semester Core Course 02(Sociology of India-1) Honours

This paper helps students to construct modes and processes of knowledge about the Indian society-about the key concepts and the institutions of Indian society,it will basically train students to understand Indian society which is important in knowing.

2nd Semester Core Course 03 (Introduction to Sociology-II) Honours

This paper aims to introduce students to sociological thought from original texts,tries to give a flavour of how thinkers have conceptualised various aspects of society over a period of time.

2nd Semester Core Course 04 (Sociology of India-II) Honours

This paper deals with a myriad of ideas and debates related to Indian society and helps develop critical thinking about the various ideologies and socio-political forces which shape the terrain of the nation.

3rd semester Core Course 05 (Political Sociology) Honours

This paper deals with some major concepts and debates in Political Sociology in contemporary times so that students develop a comparative understanding of political relationship of state and society.

3rd Semester Core Course 06 (Sociology of Religion) Honours

This paper attempts to introduce students to some very basic concepts related to meaning of religion, function, about the elements, technique of religion, drawing heavily from the classical theorists on the subject.

3rd Semester Core Course 07 (Sociology of Gender) Honours

This paper interrogates into gender, sex and sexuality, it introduces students to gender which can be studied sociologically from critical perspectives.

4th Semester Core Course 08 (Economic Sociology) Honours

Economic activities have socio-cultural bases. This paper comprehends such bases and highlights sociological analysis of economic processes in local and global situations.

4th Semester Core Course 09 (Sociology of Kinship) Honours

It aims to introduce to students general principles of kinship and marriage, the key terminologies, and theoretical statements of ethnographers and looks at the trajectories and new trends in kinship studies, the re-imagining of families or recasting kinship.

4th Semester Core Course 10 (Social Stratification) Honours

This paper deals with social inequalities from sociological perspectives and thus acquaints students with theoretical perspectives on diverse social inequalities.

5th Semester Core Course 11 (Sociological Thinkers-I) Honours

It aims to introduce students to the classical thinkers' sociological thoughts which contributed to the making of Sociology.

5th Semester Core Course 12 (Sociological Research Methods-I) Honours

This paper aims to acquaint students to the general introduction of the method used by Sociology in research activities and philosophical underpinnings of research.

6th Semester Core Course 13 (Sociological Thinkers- II) Honours

It tries to introduce students to sociological thinking through different original texts of the post-classical Sociological Writings.

6th Semester Core Course 14 (Research Methods- II) Honours

It aims at introducing students to basics of research-research design, methods and techniques of research/data collection and data analysis and provides knowledge on qualitative and quantitative conduction of research.

1st Semester Honours, Generic Elective

G.E. 01 (Indian Society: Images and Realities)

This paper focuses on interdisciplinary introduction to Indian Society on some basic concepts like civilization, Colony, Nation and Society on Indian Institutions, political economy and critiques, thus seeking to provide a critical understanding of Indian Society.

2nd Semester Generic Elective 02 (Family and Intimacy)

This paper tries to introduce students to a wide range of contemporary concerns of the institutions of Family, Marriage, Kinship, Bondage and critiques and transformations of intimacy.

3rd Semester Generic Elective 03 (Rethinking Development) Honours

This paper focuses on development ideas from a sociological perspective and tries to make the students familiar with different approaches to understand development and Indian experiences.

4th Semester Generic Elective 04 (Gender and Violence)

This course focuses to make students aware of the common forms of violence and the logic behind violence from sociological perspective so that students are informed and make pragmatic, ethical and effective choices while resisting in the context of gendered violence.

3rd Semester Honours, Skill Enhancement Course (SEC)

SEC 01 (Reading, Writing and Reasoning for Sociology)

This course attempts to develop students' Reading, Writing and Reasoning skills in sociological language and to help students generate synergies by mirroring the reading and writing exercises.

4th Semester Honours, Skill enhancement Course (SEC)

SEC 02 (Techniques of Ethnographic Film Making)

This paper tries to introduce students to film making techniques, oral, aural and the visual in doing Sociology and social anthropology. The course will be conducted through groups which will help in the learning process between the visually challenged and the non-visually challenged.

Discipline Specific Perspective (DSE)

DSE 01 (Urban Sociology)

This paper exposes students to understanding urban life from theoretical perspectives in its historical and contemporary contexts and attempts to help students to relate to the complex life in urban areas.

DSE 02 Agrarian Sociology

This paper focuses on the Indian themes of agrarian life, introduces students to the emergent global agrarian concerns and issues.

DSE 03 Environmental Sociology

This course introduces students to the environmental debates from sociological perspectives and also different approaches within its sub-discipline, also introduces students to issues and movements.

DSE 04 Sociology of Work

This paper gives an outline on the values and ideals of pluralised industrialism(s), links work and industry and the associated risks and hazards.

DSE 05 Sociology of Health and Medicine

This course highlights the importance of socio-cultural dimensions behind illness and medical knowledge and health practices.

DSE 06 Indian Sociological Tradition

This course mainly focuses on the key Indian Sociologists contribution in making Indian Sociology and primarily how they are concerned with traditions and modernity.

DSE 07 Visual Cultures

This paper introduces the students to the construction of visual environment in our everyday life within social debates concerning power, politics, identity and resistance.

DSE 08 Reading Ethnographies

This paper tries to make students understand the importance of studying ethnographies in their entirety- enquiry, construction, practices and the styles.

DSE 09 Societies in North-East India

This paper introduces students to the studying of the various societies of the North-East Region of India- their demographic, cultural, socio-economic, political lives- the socio-cultural political concerns, the traditional and modernity trends in the social institutions.

Programme Outcome

Students passing out in Sociology, their bachelor degree will have many benefits. Study of Sociology has great value especially in a modern complex society.

(1) Sociology provides scientific knowledge about human society, this knowledge is needed for progress and development in all aspects.

(2) Knowledge of society will help enriching culture, social institutions, customs, values, norms, ideologies, solving social problems, planning of society, promote welfare activities by governments, draw attention to the intrinsic worth and dignity of man, help us keep updated on modern social situations and development.

(3) Is useful as a teaching subject too.

Programme Specific Outcome

(1) Urban Sociology: Its value is widely recognised today with the processes of urbanization, industrialization, globalization etc.

Specially this special paper's outcomes are:

(i) provide opportunities to become urban planners

(ii) social engineering in urban areas

(iii) urban policy makers.

(iv) become researchers/ urbn sociology

(2) Agrarian Sociology:

Outcomes are: (i) Rural Sociologist

(ii) Rural Social Development

(iii) Rural Area planners

(3) Environmental Sociology Outcomes are:

(i) Social Environmental/ activist

(ii) Debator in environmental issues/ problems

(4) Sociology of Work Outcomes are:

(i) prepares students to study human behaviour, interaction and organization observing socio-exclusions, eco-political groups and institutions and help to examine effect of social influences on group and individuals.

(5) Sociology of Health and Medicine prepares students to learn about doctor-patient relationship, structure of and socio-economies of health care impact of culture and attitudes towards diseases and wellness.

(6) Societies in North-East India

Helps students to gather knowledge about cultures institutions, problems, demographic features of societies of North-East India

Programme Specific Outcome

We have these specializations like Urban Sociology, Agrarian Sociology, Environmental Sociology, Sociology of Work, Sociology of Health and Medicines, Societies in North-East India papers in the CBCS UG programmes. All these courses prepare students for special areas in Sociology.

1. With urban Sociology paper, one can go for jobs in urban planning and developments, as urban problem analysists and policy makers, in Non-governmental Organizations.

2. Agrarian Sociology prepares students for jobs in rural planning and development, non-government organizations related to rural society.

3. Environmental Sociology will prepare students for jobs in private-public agencies with environmental mission, local and state departments of ecology, community recycling programmes, actions groups, consulting firms, etc.

4. Sociology of North-East Societies: It will prepare students for State Rural Livelihood Missions, Researcher, Social analysists, etc.

MANOHARI DEVI KANOI GIRLS' COLLEGE
DEPARTMENT OF ZOOLOGY

PROGRAMME OUTCOME

After successfully completing B. Sc. (Zoology) CBCS Programme students will be able to:

1. Communicate scientific information through effective formal and informal Methods generally used in sciences.
2. Conduct basic scientific research and provide inputs for benefit of society.
3. Develop competence in basic sciences and in the content of the specific courses that constitutes the principal knowledge of their degree
4. Acquire time management and self-management skills.
5. Acquire the skills in handling scientific instruments, planning and performing in laboratory experiments.
6. Understand relevant theories, concepts and principles of zoology.
7. Understand the structure and functions of cell types
8. Compare and contrast the characteristics of animals that differentiate them from other life forms.
9. Relate the various abiotic factors with living forms and ecosystems.
10. Explain the role of various biomolecules in living systems
11. Apply the knowledge of Zoology to understand the complex life processes.

PROGRAMME SPECIFIC OUTCOME

1. Ability to connect and apply biological knowledge to other disciplines
2. Integrate the knowledge into their personal and professional lives.
3. Explain the origin of life with context to the origin of eukaryotic cell and Endosymbiotic theory of origin. fossil records, Darwinism and Neo-Darwinism and experimental evidences.
4. Illustrate zoological science for its application in branches like entomology, apiculture, aquaculture, sericulture, animal husbandry and agriculture etc.
5. Understand animal interactions with the environment and identify the major groups of organism with an emphasis on animals, recognise their characteristics and classify them within a phylogenetic framework
6. Learn the various techniques, instruments, computational software used for analysis of animal's forms and functions.

COURSE OUTCOME

CORE COURSES

CC I Non-chordates I: Protista to Pseudocoelomates

• Learn about the importance of systematics, taxonomy and structural organization of animals.

• Appreciate the diversity of non-chordates living in varied habit and habitats.

• Understand evolutionary history and relationships of different non-chordates.

• Analyse the organization, complexity and characteristic features of nonchordates, get familiarized with the morphology and anatomy of representatives of various animal phyla.
• Comprehend the economic importance of non-chordates, their interaction with the environment and role in the ecosystem.
• Enhance collaborative learning and communication skills through practical sessions, team work, group discussions, assignments, projects and viva voce.

CC II Perspectives in Ecology

• Understanding key concepts in ecology with emphasis on role of physical factors and concept of limiting factors.
• Comprehend the population characteristics, dynamics, growth models and interactions.
• Understand the community characteristics, ecosystem development and climax theories.
• Learn the types of ecosystems, food chains, food webs, energy models, and ecological efficiencies.
• Apply the basic principles of ecology in wildlife conservation and management.

CC III Non-chordates II: Coelomates

• Learn about the importance of systematics, taxonomy and structural organization of animals.
• Appreciate the diversity of non-chordates living in diverse habit and habitats.
• Understand evolutionary history and relationships of different non-chordates through functional and structural affinities.
• Critically think about the organization, complexity and characteristic features of nonchordates.
• Getting familiarized with the morphology and anatomy of representatives of various animal phyla.
• Understand the economic importance of non-chordates, their interaction with the environment and role in the ecosystem.

CC IV Cell Biology

• Understand fundamental principles of cell biology.
• Explain structure and functions of cell organelles involved in diverse cellular processes.
• Appreciate how cells grow, divide, survive, die and regulate these important processes.
• Comprehend the process of cell signalling and its role in cellular functions.
• Have an insight of how defects in functioning of cell organelles and regulation of cellular processes can develop into diseases.
• Learn the advances made in the field of cell biology and their applications.

CC V Diversity of Chordates

- Understand different classes of chordates, level of organization and evolutionary relationship between different subphyla and classes, within and outside the phylum.
- Study about diversity in animals making students understand about their distinguishing features.
- Appreciate affinities and differences in life functions among various groups of animals in Phylum Chordata.
- Comprehend the circulatory, nervous and skeletal system of chordates.
- Know about the habit and habitat of chordates in marine, freshwater and terrestrial ecosystems.

CC VI Physiology: Controlling and Coordinating Systems

- Know the basic fundamentals and understand advanced concepts so as to develop a strong foundation that will help them acquire skills and knowledge to pursue advanced courses.
- Recognize and explain how all physiological systems work in unison to maintain homeostasis in the body and use of feedback loops to control the same.
- Learn an integrative approach to understand the interactions of various organ systems resulting in the complex overall functioning of the body.
- Synthesize ideas to make connection between knowledge of physiology and real world situations, including healthy life style decisions and homeostatic imbalances
- Know the role of regulatory systems *viz.* endocrine and nervous systems and their coordination in maintaining various physiological processes.

CC VII Fundamentals of Biochemistry

- Gain knowledge and skill in the fundamentals of biochemical sciences, interactions and interdependence of physiological and biochemical processes.
- Learn the various processes used in industries and gain skills in techniques of Chromatography, spectroscopy etc.
- Demonstrate foundation knowledge in biochemistry; synthesis of proteins, lipids, nucleic acids, and carbohydrates; and their role in metabolic pathways along with their regulation.
- Know about classical laboratory techniques, use modern instrumentation, design and conduct scientific experiments, and analyze the data.

CC VIII Comparative Anatomy of Vertebrates

- Explain comparative account of the different vertebrate systems
- Understand the pattern of vertebrate evolution, organisation and functions of various systems.
- Learn the comparative account of integument, skeletal components, their functions and modifications in different vertebrates.

- Understand the evolution of heart, modification in aortic arches, structure of respiratory organs used in aquatic, terrestrial and aerial vertebrates; and digestive system and its anatomical specializations with respect to different diets and feeding habits.
- Learn the evolution of organs to a complex, highly evolved form in mammals.
- Learn to analyze and critically evaluate the structure and functions of vertebrate systems, which helps them to discern the developmental, functional and evolutionary history of vertebrate species.

CC IX Physiology: Life Sustaining Systems

- Have a clear knowledge of basic fundamentals and understanding of advanced concepts so as to develop a strong foundation that will help them to acquire skills and knowledge to pursue advanced courses
- Comprehend and analyse problem-based questions on physiological aspects.
- Recognize and explain how all physiological systems work in unison to maintain homeostasis in the body; and use of feedback loops to control the same.
- Learn an integrative approach to understand the interactions of various organ systems resulting in the complex overall functioning of the body.

CC X Biochemistry of Metabolic Processes

- Gain knowledge and skill in the interactions and interdependence of physiological
- and biomolecules
- Understand essentials of the metabolic pathways along with their regulation.
- Know the principles, instrumentation and applications of bio analytical techniques.
- Become aware about classical laboratory techniques, use modern instrumentation,
- design and conduct scientific experiments and analyze the resulting data.
- Be knowledgeable in proper procedures and regulations in handling and disposal of
- chemicals

CC XI Molecular Biology

- Describe the basic structure and chemistry of nucleic acids, DNA and RNA;
- Compare and contrast DNA replication machinery and mechanisms in prokaryotes and eukaryotes.
- Elucidate the molecular machinery and mechanism of information transfer processes– transcription (formation of RNA from DNA) and translation (formation of proteins from RNA) - in prokaryotes and eukaryotes;
- Explain post-transcriptional modification mechanisms for the processing of eukaryotic RNAs;
- Discuss general principles of transcription regulation in prokaryotes by exploring the structure and function of lactose and tryptophan metabolism operons;
- Give an overview of gene expression regulation in eukaryotes;
- Explain the significance of DNA repair mechanisms in controlling DNA damage.
- Recognise role of RNAs (riboswitches, siRNA and miRNA) in gene expression

regulation.
• Quantitatively estimate concentration of DNA and RNA by colorimetric methods.

CC XII Principles of Genetics

• Have a deeper understanding of the varied branches of the biological sciences like microbiology, evolutionary biology, genomics and metagenomics.
• Gain knowledge of the basic principles of inheritance.
• Analyse pedigree leading to development of analytical skills and critical thinking enabling the students to present the conclusion of their findings in a scientific manner.
• Know the mechanisms of mutations, the causative agents and the harmful impact of various chemicals and drugs being used in day to day life.

CC XIII Developmental Biology

• Understand the events that lead to formation of a multicellular organism from a single fertilized egg, the zygote.
• Describe the general patterns and sequential developmental stages during embryogenesis; and understand how the developmental processes lead to establishment of body plan of multicellular organisms.
• Discuss the general mechanisms involved in morphogenesis and to explain how different cells and tissues interact in a coordinated way to form various tissues and organs.
• Understand about the evolutionary development of various animals.
• Know the process of ageing leading to interventions that can improve the overall health and quality of life in aged people.
• Learn the importance of latest techniques like stem cell therapy, *In Vitro* fertilization and amniocentesis etc. to be applied for human welfare.

CC XIV Evolutionary Biology

• Acquire problem solving and high order analytical skills by attempting numerical problems as well as performing simulation studies of various evolutionary forces in action.
• Apply knowledge gained, on populations in real time, while studying speciation, behaviour and susceptibility to diseases.
• Gain knowledge about the relationship of the evolution of various species and the environment they live in.
• Get motivated to work towards mitigating climate change so that well adapted species do not face extinction as a result of sudden drastic changes in environment.
• Use knowledge gained from study of variations, genetic drift to ensure that conservation efforts for small threatened populations are focused in right direction.

DISCIPLINE SPECIFIC ELECTIVE COURSES

DSE I Animal Behaviour and Chronobiology

- Understand types of animal behaviour and their importance to the organisms.
- Enhance their observation, analysis, interpretation and documentation skills by taking short projects pertaining to Animal behaviour and chronobiology.
- Relate animal behaviour with other subjects such as Animal biodiversity, Evolutionary biology, Ecology, Conservation biology and Genetic basis of the behaviour.
- Understand various process of chronobiology in their daily life such as jet lag.
- Learn about the biological rhythm and their application in pharmacology and modern medicine.
- Appreciate and develop passion for biodiversity and to respect nature and the environment.

DSE II Biology of Insecta

- Appreciate the diversity of insects.
- Understand the physiology of Insects which has made them the most successful animals in terms of numbers and variety of species.
- Learn about their role in ecological balance.
- Get an insight of the highly organized social life of insects.

DSE III Fish and Fisheries

- Acquire knowledge of physiology, reproduction of fishes.
- Analyse different kinds of water and identify/differentiate various kinds of fishes.
- Become aware and gain knowledge of Inland and marine Fisheries in India and how it contributes to Indian economy.
- Know about different kinds of fishing methods and fish preservation which can be employed for export and storage of commercial fishes.
- Find the reasons behind the depletion of fisheries resources.
- Develop skills for entrepreneurship or self-employment in their own fisheries-related business.

DSE VIII Immunology

- Describe the basic mechanisms, distinctions and functional interplay of innate and adaptive immunity
- Define the cellular/molecular pathways of humoral/cell-mediated adaptive responses including the role of Major Histocompatibility Complex
- Explain the cellular and molecular aspects of lymphocyte activation, homeostasis, differentiation and memory
- Understand the cellular processes involved in inflammation and immunity, in states of health and disease.

- Learn basic experimental methods and technologies.
- Understand the basis of vaccination, autoimmunity, immunodeficiency, hypersensitivity and tolerance

GENERIC ELECTIVE COURSES

GE I Animal Diversity

- Distinguish between major phyla of animals through a demonstrated understanding of their taxonomic classification and diversity.
- Describe the distinguishing characteristics of all major phyla.
- Understand the fundamental differences among animal body plans and relate them to function, taxonomic classification and evolutionary relationships among phyla.
- Illustrate lifecycles, structure, function and reasons for importance of few representative organisms from different groups of animals.
- Identify anatomical structures from prepared tissues.

GE II Environment and Public Health

- Get familiarized with various aspects of environmental risks and hazards.
- Recognize the climate change due to human activities.
- Be aware about the various impacts of environmental degradation on human health through case studies and how it can be prevented.
- Learn about the nuclear and chemical disasters and their after effects through cases studies.
- Know various waste management technologies and their utility.
- Understand the diagnostic methods of various diseases and ways to prevent them.
- Realize the importance of nature conservation for betterment of human race and all living beings.

GE III Food, Nutrition and Health

- Understand the association of food and nutrition in promoting healthy living.
- Think more holistically about the relationship between nutrition science, social and health issues.
- Eligible for jobs as food safety officers, food analysts, food inspectors, food safety commissioners or controllers for jobs in organizations like FSSAI.

GE IV Insect Vectors and Diseases

- Identify different insects and classify them based on their morphology and behaviour.
- Describe the host-pathogen relationships and the role of the host reservoir on transmission of parasite.
- Explain various modes of transmission of parasite by insect vectors
- Recognize various possible modern tools and methodologies for laboratory diagnosis, surveillance and treatment of diseases

• Define various terms related to insect transmitted diseases such as vectorial capacity, mechanical and biological transmission, host specificity etc.
• Explain control methods of insect vector diseases including spreading awareness on public health programs and mitigating insect borne diseases

SKILL ENHANCEMENT COURSES

SEC I Apiculture

• Learn about the various species of honey bees in India, their social organization and importance.
• Be aware about the opportunities and employment in apiculture – in public, private and government sector.
• Gain thorough knowledge about the techniques involved in bee keeping and honey production.
• Know about various products obtained from beekeeping sector and their importance.
• Develop entrepreneurial skills necessary for self-employment in beekeeping sector.
• Enhance collaborative learning and communication skills through practical sessions, team work, group discussions, viva voce, assignments and projects.

SEC II Aquarium Fish Keeping

• Acquire knowledge about different kinds of fishes, their compatibility in aquarium.
• Become aware of Aquarium as commercial, decorative and of scientific studies.
• Develop personal skills on maintenance of aquarium.
• Know about the basic needs to set up an aquarium, *i.e*., dechlorinated water, reflector, filters, scavenger, aquatic plants etc. and the ways to make it cost-effective.

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