



INTERNAL QUALITY ASSURANCE CELL

FURKATING COLLEGE (AUTONOMOUS)

NAAC re-accredited with A⁺ Grade (4th Cycle)

P.O. FURKATING, District: Golaghat, Assam, India, Pin: 785610

COURSE OUTCOME OF FYUGP

DEPARTMENT OF ASSAMESE

FIRST SEMESTER

Course: ASSA-MA-1014 Introduction to History of Assamese Language And Script

TITLE OF THE

By end of course the student will able to know:

- 1) The dialectal variations of the Assamese language.
- 2) Develop their own ideas about the origins of the Assamese language.
- 3) The stages of development of the Assamese language.
- 4) The origin and development of the Assamese script.

Course: ASSA-MI-1014 Language and Script of Assam

By end of course the student will able to know:

- 1) Knowledge of the linguistic characteristics of the Assamese language.
- 2) Know about the geographical and ethno-dialectal diversity of the Assamese language.
- 3) The exchange of linguistic elements of the Assamese language with non-aryan language.
- 4) Introduction to Assamese script and scripts of other languages of Assam.

Course: ASSA-GEC-1013(A) Introduction To Indian Literature Paper

- 1) Students will able to know an idea of Indian literature.
- 2) Demonstrate an understanding of the historical, cultural, and social contexts that have shaped Indian literature across various periods, from ancient to modern times.

Course: ASSA-GEC-1013(B) Literary Appreciation

- 1) The increasing expansion of the mass media literary criticism has become a professional profession.
- 2) The student will be able to use the basic skills for such professions.

Course: ASSA-AEC-1014 Skill and Ability Enhancement In Assamese Language

Student will be able to:

- 1) Developed the skill to speak Assamese language.
- 2) Practical skills in formal communication through Assamese language.

Course: ASSA-SEC-1013 Personality Development & Soft Skill

Upon successful completion of the Personality Development and Soft Skills course, students will:

- 1) Enhance Self-awareness and Confidence
- 2) Master Effective Communication
- 3) Build Interpersonal Skills
- 4) Develop Time Management and Organizational Skills
- 5) Strengthen Leadership and Decision-Making Abilities
- 6) Demonstrate Professional Etiquette
- 7) Adapt to Workplace Challenges
- 8) Prepare for Career Success.

SECOND SEMESTER

Course: ASSAM-MA-2014 Introduction To History Of Assamese Literature

- 1) By the end of the course the student will be able to understand many ways in which political, economic, cultural and linguistic factors have contributed to the creation of Assamese literature. Knowledge about medieval Assamese literature.

Course: ASSAM-MI-2014 History of Assamese Literature

By the end of the course the student will be able to:

- 1) Get an overview of the era division of Assamese literature.
- 2) Learn about the writers of the pre-Sanskrit, Sanskrit and Sankaradeva eras and their literary works.
- 3) Gain concepts and familiarity with Assamese literature and historical literature.

- 4) Learn about the contributions of the missionaries to the Assamese language and literature, as well as the literary contributions of the Assamese writers of the time, Hemchandra Barua and Gunabhiram Barua.
- 5) Learn about Jonaki magazine and literary work of contemporary Assamese writers.
- 6) Get an introduction to the writers and literature of the Abahan period.

Course: ASSA-GEC-2013(A) Creative Writing

1) By the end of the course, students will have the confidence and skills to pursue further writing endeavours, whether for personal enrichment or professional development.

Course: ASSA-GEC-2013(B) Literature of North East India

1) It will help in linking the North East with the national stream of Indian thought.

Course: ASSA-SEC-2013(A) Application Of Assamese Language In Computer

By end of the course the student will able to:

- 1) Clarify the concept of Assamese fonts and keyboards
- 2) To fill the gap of experienced persons with knowledge of Assamese DTP.

Course: ASSA-SEC-2013(B) Advertisement Preparation of Print And Electronic Media.

By end of the course the student will able to:

- 1) Gain basic knowledge of advertisement preparation.
- 2) Learn about the types of advertisements in different media
- 3) Get an overview of the different types of advertising
- 4) They can acquire skills in print media advertising preparation

DEPARTMENT OF BODO

FIRST SEMESTER

Course Code: BODOMA-1014.

Course Title: History of Bodo Literature (Early Period)

1. Come to know about the Bodo Folk Literature
2. Come to Know about the contribution of missionaries in Bodo language and literature.
3. Come to know about the first Bodo magazine and their writings

Course: BODOMI-1014 Non-Fictional Prose in Bodo (Early Period)

1. Students come to know about the various aspects of the Bodos which are reflected in the Prose Literature

Course : BODOGEC-1013 Bodo Culture

1. Come to know about cultures of the Bodos
2. Come to know about cultural elements of the Bodos.

Course: BODOAEC-1014. Functional Bodo

1. Come to Know about the use of Alphabets, Spelling systems in writing of Bodo Language
2. Come to know about the demonstrative ability of expression by improving grammatical skill
3. Come to know the language function in the spoken discourse.

Course: BODOSEC-1013 Manuscript Preparation

4. Come to know about manuscript preparation and use of punctuation and symbols
5. Come to know about editing and taking into MS word and Page Maker

SECOND SEMESTER

Course: BODOMA-2014 Introduction to Language and Linguistics

1. Come to know about the general idea about language
2. Come to Know about the Linguistics subject

Course: BODOMI-2014 Old Bodo Drama

1. Students can learn the beginning of Bodo literature, whose and to whom various mythological, social and where written.

Course: BODOGEC-2013 Bodo Fiction

1. Come to know about Bodo fiction
2. Come to know about short stories in the Bodo literature.

Course: BODOAEC-2012 Speaking and Writing ability in Bodo

1. Able to demonstrate ability of expression of thought in different contexts.
2. Acquisition of words usable in day-to-day life, writing orthography as used for writing Bodo language.

Course: BODOSEC-2013 Translation Studies

1. Come to know about theory, concept and types of translation
2. Come to learn about different types of translation into Bodo.

DEPARTMENT OF EDUCATION

FIRST SEMESTER

Course: EDUCMA1014: Foundations of Education-I

1. This Course will help to understand the concept and types of education, understand different schools of Psychology and methods of Educational Psychology.
2. Ability to discuss the meaning, nature and scope of Philosophy and Educational Philosophy and its role in different aspects of Education.
3. Discuss the meaning, nature and scope of Sociology and Educational Sociology and relationship of sociology and education.

Course: EDUCMI1014: Philosophical Foundations of Education

1. Discuss the meaning, nature and scope of Philosophy and Education and the role of Philosophy in Education
2. Analyse the basic concepts of Indian Philosophies and Western Philosophies and their influence on education
3. To distinguish between the Idealism, Naturalism and Pragmatism.

Course: VAC1022: Health and Wellness

1. Introduce the learners the concept of health and wellness and its importance in daily life.
2. Explain the learners the relation between mind-body and its importance.
3. Students develop knowledge about health behaviour and promote human strengths for well-being.

SECOND SEMESTER

Course: EDUCMA2014: Foundations of Education-II

1. Students develop knowledge about the details of development of Indian education system from ancient to modern.
2. Acquire knowledge about the concepts of curriculum and co-curricular activities.
3. Discuss some global issue and contemporary issues of Indian education.

Course: EDUCMI2014: Psychological Foundations of Education

1. Students will be able to describe the meaning and nature of psychology, different schools of psychology and their contribution to education.
2. Explain the meaning, nature, scope and importance of Educational Psychology, types and theories of learning.
3. Describe the concept and theories of intelligence and creativity. Explain the meaning, concept, factors and theories of personality. Understand the concepts of mental health and mental hygiene, measures of mental health in school.

Course: VAC2022: Yoga Education

1. Create awareness about practical knowledge on different yogic practices for holistic development through Yoga.
2. Students will be able to give a glimpse of ancient Yoga Philosophy.
3. Impart some knowledge regarding the healing power of Yoga and increase the professional efficiency in the field of Yoga.

Course: EDUCSEC2013: ICT in Education

1. Describe the concept and features of ICT in education
2. Analyse the role of ICT in education explain the skill of using E-ways of learning to explore content knowledge.
3. Describe the issues of ICT in Education.

DEPARTMENT OF ECONOMICS

FIRST SEMESTER

Course: ECON-MA- 1014 Introductory Microeconomics

- Understand the economic tradeoffs and opportunities.
- Understand the fundamentals of microeconomics
- Understand the basics of market mechanisms.

Course: ECON-MI- 1014 Elementary Microeconomics

1. Understand the economic trade-offs and opportunities.
2. Understand the fundamentals of market mechanisms.

Course: ECON-GEC- 1013 Economic History of India

1. Analyse key aspects of Indian economic development during the second half of British colonial rule.
2. Understand the place of the Indian economy in the wider colonial context.
3. Learn the mechanisms that linked economic development in India to the compulsions of colonial rule.

Course: ECON-SEC- 1013 Data Collection & Analysis

1. Students will learn about the meaning, types, sources and use of data
2. They will also enable to know about different methods of data collection and data presentation

SECOND SEMESTER

Course: ECON-MA- 2014 Introductory Macroeconomics

1. Understand what macroeconomics is all about and how it is different from microeconomics;
2. Assess the overall performance of economies on the basis of data related to macroeconomics indicators like GDP, deflator, capital formation, etc.
3. Analyze the changes in various components of aggregate demand and how such changes affect equilibrium output and employment.

Course: ECON-MI- 2014 Elementary Macroeconomics

1. Understand what macroeconomics is all about and how it is different from microeconomics;
2. Assess the overall performance of economies on the basis of data related to macroeconomics indicators like GDP, deflator, capital formation, etc.
3. Analyze the changes in various components of aggregate demand and how such changes affect equilibrium output and employment;
4. To have a critical perspective on the money supply decision of RBI and its implication on the price level.

Course: ECON-GEC- 2013 Contemporary Indian Economy

1. Understand the current problems of Indian Economy.
2. Analyze the factors contributing to the recent state of the Indian Economy.
3. Analyze the sector specific policies adopted for achieving the aspirational goals.
4. Review various economic policies adopted.

Course: ECON-SEC- 2013 Techniques and Application of Field Survey

1. Students will understand the meaning and importance of field survey, various methods of data collection through field survey
2. They will also understand about how to prepare questionnaire and schedule and how to prepare report
3. Students will learn about the use of Statistical software in Social Science Research

DEPARTMENT OF ENGLISH

FIRST SEMESTER

Course: ENGLMA-1014 British Poetry and Drama: 14th To 17th Century

After completing this course, the learners shall be acquainted with British poetry and drama from Chaucer to Shakespeare along with the historical context of the period.

Course: ENGLMI-1014 British Poetry and Drama: 14th To 17th Century

After completing this course, the learners shall be acquainted with British poetry and drama from Chaucer to Shakespeare along with the historical context of the period.

Course: ENGLGEC-1013 Introducing English Poetry

After completing this course, the learners shall be able to have a fair idea of different kinds as well as different elements of poetry, in general and English poetry, in particular.

Course: ENGLSEC-1013 Soft Skills

After completing this course, the learners shall be able to inculcate various interpersonal skills.

Course: ENGLAEC-1014: WRITING SKILLS IN ENGLISH

After completing this course, the learners shall be able to develop the ability to share thoughts, emotions and ideas through written communication skills which would be immensely helpful in their professional career.

SECOND SEMESTER

Course: ENGLMA-2014 British Poetry and Drama: 17th And 18th Centuries

After completing this course, the learners shall be familiarized with the historical context of the period from the Puritan Interregnum to the Restoration of King Charles II.

Course: ENGLMI-2014 British Poetry and Drama: 17th And 18th Centuries

After completing this course, the learners shall be familiarized with the historical context of the period from the Puritan Interregnum to the Restoration of King Charles II.

Course: ENGLGEC-2013 Introducing English Drama

After completing this course, the learners shall be able to have a fair idea of different kinds and different tools and techniques of drama as well as different movements of English drama.

Course: ENGLSEC-2013 Creative Writing

After completing this course, the learners shall be able to develop their imaginative and critical faculties through application-based learning.

Course: ENGLAEC-2014: English Language and Communication Skills

After completing this course, the learners shall be able to develop the ability to share thoughts, emotions and ideas through various means of communication: both verbal and non-verbal.

DEPARTMENT OF GEOGRAPHY

FIRST SEMESTER

Course : GEOMORPHOLOGY (Major)

By the end of this course, students will have a solid understanding of the fundamental principles of geomorphology and the tools necessary to analyze and interpret landscapes and landforms. This knowledge will be valuable in a range of careers, including environmental management, land-use planning, and resource management

Course : GEOMORPHOLOGY AND OCEANOGRAPHY (Minor)

1. Identify and explain the fundamental principles and processes that shape the Earth's surface, such as plate tectonics, weathering, erosion, and sediment transport.
2. Analyze the physical, chemical, and biological processes that govern the ocean's behaviour, including the factors that control circulation patterns, waves, tides, and marine life.
3. Describe the relationships between coastal geomorphology and oceanography, and the impact of wave action, tides, and sea-level change on coastal landforms.
4. Assess the impact of human activities on coastal and marine environments, including pollution, coastal erosion, and sea-level rise.
5. Evaluate and synthesize scientific literature related to the fields of geomorphology and oceanography, and communicate scientific ideas effectively through written and oral presentations.
6. Demonstrate practical skills in fieldwork, laboratory analysis, and data interpretation in both geomorphology and oceanography.

Overall, the learning outcomes of this minor course are to equip students with a solid understanding of the principles and applications of geomorphology and oceanography, and to develop the skills necessary to analyze and interpret data in order to solve real-world problems related to coastal and marine environments

Course : Human Geography (GEC)

1. Identify and analyze the key concepts and theories related to human geography, including population, urbanization, culture, and politics.
2. Analyze the complex relationships between humans and their physical and social environments, and critically evaluate the impact of human activities on the natural world.
3. Apply interdisciplinary thinking skills to address real-world problems related to human geography, drawing on insights from different disciplines within the social sciences and humanities.
4. Design and implement research projects related to human geography, including the collection, analysis, and interpretation of data related to population, urbanization, and cultural patterns.
5. Communicate complex ideas related to human geography to a range of audiences, both orally and in writing.
6. Demonstrate cultural awareness and sensitivity, including an understanding of the diverse cultural practices and beliefs that shape human geography and their implications for society.

Overall, the Programme Learning Outcomes for the "Human Geography" Multi-Disciplinary Generic Elective course would prepare students for a range of careers in fields such as urban planning, environmental management, international development, and social policy. Graduates would be equipped with the knowledge, skills, and expertise necessary to address real-world problems related to human geography, as well as a deep understanding of the complex interactions between human societies and their environments.

Course : Disaster Management (SEC)

The learning outcomes of this course in Disaster Management is aimed to equip students with the knowledge, skills, and attitudes necessary to understand and effectively respond to disasters. Here are some common learning outcomes for such a course:

1. Knowledge of Disaster Types and Causes:
 - Understand the different types of disasters, such as natural disasters (e.g., earthquakes, floods, hurricanes) and human-made disasters (e.g., industrial accidents, terrorist attacks).

- Comprehend the underlying causes and factors that contribute to the occurrence and severity of disasters, including geological, climatic, environmental, and socio-economic factors.

2. Understanding Disaster Risk Reduction:

- Gain knowledge about the principles and practices of disaster risk reduction, including vulnerability assessment, hazard mapping, and early warning systems.

- Understand the importance of community resilience and capacity building in reducing the impact of disasters.

- Learn about disaster risk management frameworks, policies, and international agreements.

3. Emergency Response and Preparedness:

- Develop an understanding of emergency response systems, including the roles and responsibilities of different stakeholders (e.g., government agencies, NGOs, communities).

- Acquire knowledge of emergency planning, coordination, and communication strategies.

- Learn about the importance of preparedness measures, such as evacuation planning, emergency shelters, and resource management during disasters.

4. Disaster Impact Assessment and Recovery:

- Learn methods and techniques for assessing the social, economic, and environmental impacts of disasters.

- Understand the principles and processes involved in post-disaster recovery and reconstruction.

- Explore the challenges and strategies associated with restoring livelihoods, infrastructure, and community well-being after a disaster.

5. Risk Communication and Public Awareness:

- Develop skills in effective risk communication, including the ability to disseminate accurate and timely information to the public during emergencies.

- Understand the role of media and technology in disaster communication.

- Recognize the importance of public awareness campaigns in promoting a culture of safety and preparedness.

6. Ethical and Professional Considerations:

- Reflect on the ethical dimensions of disaster management, including issues of equity, social justice, and human rights.

- Understand professional responsibilities and ethical guidelines for practitioners in the field of disaster management.
- Develop critical thinking skills to assess and address ethical dilemmas that may arise during disaster response and recovery efforts.

By achieving these learning outcomes, students will be equipped with the necessary knowledge and skills to contribute to effective disaster management, both preparedness and response. They will also be better prepared to address the social, economic, and environmental challenges that arise in the aftermath of disasters preparedness and response. They will also be better prepared to address the social, economic, and environmental challenges that arise in the aftermath of disasters

SECOND SEMESTER

Course: Climatology (Major)

- (1) Understand the mean global atmospheric circulations and disturbances,
- (2) World climate systems, climatic variability and change,
- (3) impact of human activities

Course: Climatology And Biogeography (Minor)

- (1) understand the mean global atmospheric circulations and disturbances, world climate systems, climatic variability and change, impact on human activities

Course : Fundamentals Of Geomorphology (GEC)

1. To introduce the meaning, nature, scope and concepts in Geomorphology in adequate manner, many facets of surface relief features.
2. To understand various aspects of their growth and evolution on the Earth.
3. To understand the work of running water, Underground water, moving ice, wind and sea waves, Weathering and Mass Wasting–Concept
4. the learner will be able to provide an understanding of the conceptual and dynamic aspects of landform development. Students will also learn the relevance of Geomorphology in various fields.

Course : Map Projection and Cartographic Techniques (SEC)

1. To understand about map preparation methods and techniques, graphical representation of climatic data.
2. Interpretation of topographical maps will help to understand the features of maps and how to read a map and identify real world features from maps

DEPARTMENT OF HISTORY

FIRST SEMESTER

Course Title: HIST-MA-1014 History of India-I (Prehistory to C.300BCE)

1. To have an understanding on prehistory and sources of Ancient Indian History and Indian prehistory.
2. To acquaint with the prehistoric period and prehistoric cultures, distribution of sites,
3. tools and technologies, economic, and socio-cultural developments of the period concerned.
4. To acquaint the students with The Indus valley civilization
5. To acquaint the students with the Vedic period and the state formation in Early India

Course: HIST-MI-1014 History of Ancient India

1. To understand the history of ancient and early medieval India.
2. The students will have knowledge on the sources of ancient India as well as the political history and dynastic chronology of the sub-continent up to 1200 C.E

Course: HIST-GEC-1013 Introduction to Culture and Heritage of Ancient India

1. To have an understanding on culture and heritage of ancient India.
2. The students will be acquainted with the literature, philosophy, art, architecture and sculptural developments in India during the period concerned.

Course: VAC-1012 Understanding India

1. To have an understanding on history and culture of ancient India.
2. The students will be acquainted with the literature, philosophy, art and architectural developments in India during the period concerned.
3. The students will also get to know about their constitutional rights and duties

SECOND SEMESTER

Course: HIST-MA-2014 Social Formations and Cultural Patterns of Ancient and Medieval World

1. Learners will be acquainting with the historical developments of various civilizations of ancient and medieval world.
2. They will have a comprehensive view about various political, economic and cultural developments of different human societies.
3. The students will also learn the changes and crisis faced by early and medieval societies.

Course: HIST-MI-2014 History of Medieval India

- 1 The student will have an understanding of the history of medieval India.
- 2 The students will have knowledge on the sources of medieval India as well as the political history and dynastic chronology of the sub-continent from 1200 C.E.
- 3 This paper will also give an understanding of socio-religious developments of medieval period.

Course: HIST-GEC-2023 Introduction to Cultural Heritage of Assam

- 1 This paper will acquaint the students about the rich cultural heritage of Ancient and Medieval Assam.
- 2 The students will understand the context and various stylistic traditions of archaeological and architectural remains.
- 3 The students will also have an understanding of neo-Vaishnavite traditions of Assam

DEPARTMENT OF POLITICAL SCIENCE

FIRST SEMESTER

Course: POSCMA-1014 Introduction to Political Theory

1. Understand the nature, evolution, significance, and various traditions of Political Theory.
2. The students will also be able to reflect upon some of the important debates in Political Theory

Course: POSCMI-1014 Concepts and Debates in Political Theory

1. Understand the various concepts in Political Theory, significance of the concepts etc.
2. The students will also be able to reflect upon some of the important debates on the relationship between state and civil society

Course: POSCGEC-1013 Understanding Human Rights

1. understand the issues concerning the rights of citizens in general and the marginalized groups in particular
2. Assess the institutional and policy measures which have been taken in response to the demands of various movements.
3. Understand the conceptual dimensions, international trends and the Indian experience from the contents of the course.

Course: POSCSEC-1013 Legal Literacy in India

1. The student would be aware of the functioning of the legal system, the courts, police, jails and the system of criminal justice administration.
2. To have a brief knowledge of the Constitution and laws of India, an understanding of the formal and Alternate Dispute Redressal (ADR) mechanisms that exist in India, public interest litigation.
3. Have some working knowledge of how to affirm one's rights and be aware of one's duties within the legal framework; and the opportunities and challenges posed by the legal system for different sections of persons

SECOND SEMESTER

Course: POSCMA-2014 Indian Government and Politics

1. Understand the constitutional design of States' structure and institutions, and their actual working overtime.
2. Understand how the Constitution of India accommodates conflicting impulses (of liberty and justice, territorial decentralization, and a strong union, for instance) within itself in political practice.
3. Understand mutual interactions among the state institutions and their interactions with the large extra-constitutional environment.

Course: POSCMI-2014 Introduction to Indian Politics

1. Understand the various approaches of Indian Politics.
2. Understand the working of the Indian Politics, the constitutional structure, working of Political parties etc.
3. Understand the various issues in Indian politics

Course: POSCGEC-2013 Understanding Ambedkar

1. Understand Ambedkar's ideas and their relevance in contemporary India
2. Understand Ambedkar's philosophical contributions towards Indian economy and class question, sociological interpretations on religion, gender, caste and cultural issues; ideas on politics such as concepts of nation, state, democracy, law and constitutionalism are to be pedagogically interrogated and interpreted

Course: POSCSEC-2013 Indian Legislative Procedures

1. Understand the devices used in the working of Parliament.
2. Be familiarized with the legislative procedure which enables them to understand the role media in the legislative process and its impact on governance

DEPARTMENT OF SOCIOLOGY

FIRST SEMESTER

Course: SOCI-MA-1014 Introduction to Sociology – 1

1. The mandate of the course is to introduce the discipline to students from diverse training and capabilities.
2. The course is intended to introduce the students a sociological way of thinking.
3. It also provides a foundation for the students to peruse other more detailed and specialized courses in sociology.

Course: SOCI-MI-1014 Sociological Perspectives

1. The course aims to provide a general introduction to sociological thought.
2. The focus is on studying from the original texts to give the students a flavor of how over a period of time thinkers have conceptualized various aspects of society.
3. This paper also provides a foundation for thinkers in the other papers.

Course: SOCI-GEC-1013 Introduction to Sociology

1. The mandate of the course is to introduce the discipline of students from diverse training and capabilities.
2. It also provides a foundation for the other more detailed and specialized course in sociology.

Course: SOCI-SEC-1013 Techniques of Social Research

1. Understand the basic concepts and the techniques of sociological research with different Methods of data collection.
2. Understand the Framing of research design and how to do qualitative and quantitative Research.
3. Understand different methods of data analysis both in quantitative and qualitative research.

SECOND SEMESTER

Course: SOCI-MA-2014 Introduction to Sociology - II

1. The course aims to provide a general introduction to sociological thought.
2. The focus is on giving the students a flavor of how over a period of time thinkers have conceptualized various aspects of society.
3. This also provides a foundation for thinkers in the other papers.

Course: SOCI-MI-2014 Sociology of India

1. This paper aims to provide an outline of the institutions and processes of Indian society.
2. The central objectives is to encourage students to view the Indian reality through a sociological lens.

Course: SOCI-GEC-2013 Indian Society: Images and Realities

1. This course seeks to provide an interdisciplinary introduction to Indian society.
2. The course is intended to introduce the students to a sociological way of thinking.

Course: SOCI-SEC-2013 Soft Skill and Personality Development

1. Understand the importance of soft skill training in personality development and effective communication.
2. Understand the basic rules to face interviews and the rules of public speaking and debate.
3. Understand the causes and consequences of stress and coping strategies of stress.

4. Understand the basic challenges and issues related to health and mental well-being.

DEPARTMENT OF BOTANY

FIRST SEMESTER

Course: Understanding Cryptogams: on Archegoniate and non-archegoniate

1. Know the classification, morphology, reproduction and economic and ecological importance of cryptogams.
2. Handling and observation of algae, fungi, bryophytes and pteridophytes.

Course: Understanding Cryptogams: on Archegoniate and Non archegoniate

1. Know the classification, morphology, reproduction and economic and ecological importance of cryptogams.
2. Handling and observation of algae, fungi, bryophytes and pteridophytes.

Course : Natural resource management

1. Know about the natural resources, its types, sustainable utilization, and management practices.

Course: Tea Plantation and Management

1. Know the tea cultivation, production, and processing techniques.
2. Learn the techniques of vegetative propagation of tea and development of tea nursery.

SECOND SEMESTER

Course : Morphology and Reproduction of Gymnosperm and Angiosperms

1. Know the classification, morphology, reproduction and economic and ecological importance of gymnosperm and angiosperm
2. Handling and observation of gymnosperm and angiosperm

Course: Morphology and Reproduction of Gymnosperm and Angiosperms.

1. Know the classification, morphology, reproduction and economic and ecological importance of gymnosperm and angiosperm
2. Handling and observation of gymnosperm and angiosperm

Course : Plant Diversity and Human Welfare

1. Know the scope, dimension and importance and threats to plant diversity.
2. Conservation ways of biodiversity and its Sustainable utilization.
3. Acquire knowledge of biodiversity for human welfare.

Course: Biofertilizers

1. To use biofertilizer
2. Learn about agriculture

DEPARTMENT OF CHEMISTRY

FIRST SEMESTER

Course: CHEM-MA-1014 Core Course -1

1. To understand the periodic properties of elements, bonding in various molecules, Properties of gaseous and liquid states of matter, basic organic chemistry, Stereoisomerism etc.
2. To handle the viscometer and stalagometer for determining the viscosity and surface Tension of different compounds which have immense applications in industry and day to day life.
3. To purify the various organic compounds through recrystallisations and melting point Determinations.

Course: GECCHM1 Chemistry in Daily Life- I

1. To understand the composition, processing, and analysis of dairy products.
2. To learn about the various food preservatives and artificial food colorants and their role in food processing industries.
3. To aware the adverse effects of food adulterants in human health.

Course: MINCHM1 Fundamentals of Chemistry – 1

1. To explain the sign of wave function, counter boundary and probability diagrams, Different types of bonds and its application
2. To understand the kinetic molecular model of a gas, behaviour of real gases, vander Waal's equation, viscosity of gases,
3. To explain the basic organic chemistry and its importance with reaction mechanism
4. To analyse the inorganic salt mixture qualitatively

Course: SEC123 Basic Analytical Chemistry

1. To understand the analysis of soil, water, food products, cosmetics, and principles of Different types of chromatography.
2. To operate flame photometer and spectrophotometer in determination of macro nutrients Present in soil and iron in vitamin
3. To determine pH, physical and chemical parameter in soil and water which are Significant in day-to-day life.
4. To separate mixtures using separation techniques.

SECOND SEMESTER

Course: CHMC2 Core Course -2

1. To understand the preparation, structure, and uses of no transition elements; extraction Techniques of metals; various terms and laws of thermodynamics; crystal structure and Crystal defects; preparation & properties of alkanes, alkenes and alkynes etc.
2. To estimate iron and oxalic acid indifferent stock solutions provided to the learners which Have immense applications in industry and day to day life.
3. To detect elements and functional groups indifferent organic sample

Course: MINCHM2 Fundamentals of Chemistry – 2

1. To understand VBT, CFT and applications of some complexes in various fields.
2. To explain the VSEPR theory, MOT and their applications.
3. To illustrate the applications of solubility and solubility product principle.
4. To understand the stereochemistry and conformational analysis
5. To handle pH meter, viscometer and stalagmometer determination of pH, viscosity and surface tension of liquids

Course: GECCHM2 Chemistry in Daily Life- II

1. To understand and demonstrate how structure of biomolecules determines their reactivity and biological functions.
2. To explain the various types of vitamins and their role.

Course: SEC223 Basic Analytical Chemistry (Fuel Chemistry)

- 1 To distinguish conventional petroleum-based fuels and alternative & renewable fuels.
2. To gain the knowledge of the origin of petroleum, crude oil, composition, different Refining processes employed industrially to obtain different fractions of petroleum.
3. To perform various test used to qualify different types of fuels.

DEPARTMENT OF MATHEMATICS

FIRST SEMESTER

Course: MTHC1 Calculus and Classical Algebra

CO1: Apply De'Moivre theorem to different problems.

ILO 1.1: Demonstrate the use of De'Moivre's theorem in raising complex numbers to powers and extracting roots.

ILO 1.2: Solve problems involving the trigonometric form of complex numbers using De'Moivre's theorem.

CO2: Discuss expansion of trigonometric and hyperbolic functions.

ILO 2.1: Derive the series expansions for sine, cosine, and hyperbolic sine, and cosine functions.

ILO 2.2: Analyze the convergence of trigonometric and hyperbolic function expansions.

CO3: Apply Leibniz theorem to obtain successive differentiation.

ILO 3.1: Utilize Leibniz's theorem to find higher-order derivatives of product functions.

ILO 3.2: Solve problems involving successive differentiation using Leibniz's rule.

CO4: Utilize L'Hospital rule in finding limit of quotient of functions.

ILO 4.1: Apply L'Hospital's rule to evaluate limits of indeterminate forms such as $0/0$ and ∞/∞ .

ILO 4.2: Analyze and solve problems involving limits where L'Hospital's rule is applicable.

CO5: Evaluate maxima and minima of functions.

ILO 5.1: Determine the critical points of a function and classify them as maxima, minima, or saddle points.

ILO 5.2: Apply the first and second derivative tests to find and verify local maxima and minima of functions.

CO6: Describe reduction formula involving both trigonometric and logarithmic functions

ILO 6.1: Develop reduction formulas for integrals involving trigonometric functions.

ILO 6.2: Apply reduction formulas to solve integrals involving logarithmic functions.

CO7: Evaluate length of curves and area & volume of revolution of curves.

ILO 7.1: Calculate the arc length of a given curve using integral formulas.

ILO 7.2: Evaluate the area and volume generated by rotating a curve around an axis using integral methods.

CO8: State well ordering property of positive integers and fundamental theorem of Algebra.

ILO 8.1: Explain the well-ordering property of positive integers and its implications.

ILO 8.2: State and apply the fundamental theorem of algebra in solving polynomial equations.

CO9: Apply Division and Euclidean Algorithm to find GCD.

ILO 9.1: Use the Division Algorithm to express the gcd of two integers as a linear combination.

ILO 9.2: Implement the Euclidean Algorithm to determine the greatest common divisor of two integers.

CO10: Describe congruence relation between integers.

ILO 10.1: Explain the concept of congruence relations and their properties.

ILO 10.2: Solve problems involving modular arithmetic using congruence relations.

CO11: Demonstrate row reduction and echelon form of matrix.

ILO 11.1: Perform row operations to transform a matrix into row echelon form.

ILO 11.2: Demonstrate the process of reducing a matrix to its reduced row echelon form.

CO12: Solve system of linear equations.

ILO 12.1: Apply matrix methods, such as Gaussian elimination, to solve systems of linear equations.

ILO 12.2: Utilize the inverse matrix method and Cramer's rule to find solutions to systems of linear equations

Course: MINMTH1 Differential Calculus

CO1: define limit, continuity and differentiability and solve the problems

ILO 1.1: Analyse the continuity and differentiability of a function

ILO 1.2: Use Leibnitz theorem to find the higher order differentiation of products of functions.

CO2: get the knowledge of partial differentiations and evaluate partial differentials

ILO 2.1: Evaluate the partial differentials of a function

ILO 2.2: Discuss and use Euler's theorem on homogeneous functions.

CO3: apply differential calculus in finding tangent, normal etc. and trace a curve

ILO 3.1: find the equation of tangent and normal of any curve

ILO 3.2: Use calculus to determine the curvature of a curve

ILO 3.3: Discuss the steps to trace a curve.

CO 4: Analyse Rolle's theorem, mean value theorem etc. and interpret them

ILO 4.1: Give a geometrical interpretation of Rolle's theorem.

ILO 4.2: Construct the Taylor/ Maclaurin series of a given function

ILO 4.3: Assess the maxima and minima of a function

SECOND SEMESTER

Course: MTHC2 Real Analysis and Differential Equations

CO1: Demonstrate the Algebraic, Order and the Completeness properties of the real numbers.

ILO1.1: List the algebraic and order properties of real numbers.

ILO1.2: Find supremum and infimum of sets.

ILO1.3: Describe Archimedean principle and its corollaries.

ILO1.4: Explain the properties of countable and uncountable sets.

CO2: Examine the convergence of real sequences and series.

ILO 3.1: Discuss the basic convergence properties of sequences and series

ILO 3.2: Determine convergence and divergence of sequences and series.

ILO 3.3: Apply Archimedean principle in obtaining convergence of sequences and series.

CO3: Execute various solution concepts of differential equations

ILO 3.1: Classify the general, particular, explicit, implicit and singular solutions of differential equations.

ILO 3.2: Solve Exact differential equations, linear equations and Bernoulli equations.

ILO 3.3: Apply the solution methods of differential equations to solve problems.

CO4: Describe the solution techniques of homogeneous and non-homogeneous differential equations of second order

ILO 4.1: Solve homogeneous and non-homogeneous linear differential equations.

ILO 4.2: Solve Euler equations.

ILO 4.3: Solve differential equations using method of undetermined coefficients and method of variation of parameters.

Course: MINMTH2 Real Analysis

CO1: Demonstrate the Algebraic, Order and the Completeness properties of the real numbers.

ILO1.1: List the algebraic and order properties of real numbers.

ILO1.2: Find supremum and infimum of sets.

ILO1.3: Deduce results as corollaries to the properties of the real numbers.

CO2: Examine the convergence of real sequences and series.

ILO2.1: Deduce Cauchy's convergence criterion and apply it to determine whether a sequence is convergent or not

ILO2.2: Deduce monotone convergence theorem and apply it determine whether a sequence is convergent or not.

ILO2.3 Apply Archimedean principle in obtaining convergence of sequences.

CO3: Apply standard tests for convergence of sequences and series.

ILO 3.1: Describe Comparison test, Root test, Ratio test, Leibnitz's test of convergence.

ILO 3.2: Apply Comparison test, Root test, Ratio test, Leibnitz's test to determine whether a sequence is convergent or not.

ILO 3.3: Define absolute and conditional convergence with examples.

DEPARTMENT OF PHYSICS

FIRST SEMESTER

Course: PHYS-MA-1014 Mechanics and Properties of Matter

CO1: Understand the basic concepts of mechanics, reference frames, and conservation laws.

LO1.1: Define key terms related to mechanics.

LO1.2: Explain linear dynamics and rotational dynamics.

LO1.3: Interpret relative transformations and the invariance of laws of physics.

CO2: Analyze simple harmonic oscillators in detail.

LO2.1: Explain simple harmonic motion in an oscillatory system.

LO2.2: Solve the differential equation of simple harmonic motion.

CO3: Correlate the consequences of non-inertial frame to our real world.

LO3.1: Identify the nature of fictitious forces and their effect on the real world.

LO3.2: Classify these forces arising due to non-inertial frames.

LO3.3: Solve problems related to non-inertial frames and fictitious forces.

CO4: Compare special relativity with Newtonian relativity.

LO4.1: Define key terms related to special theory of relativity.

LO4.2: Contrast the changes in motion occurred due to relativistic speed and non-relativistic speed.

LO4.3: Interpret equivalence of mass and energy, relativistic transformation of momentum and energy and relativistic effects such as relativistic doppler effect.

Course: PHYS-MI-1014 Mechanics

CO1: Understand the basic concepts of mechanics, reference frames, and conservation laws.

LO1.1: Define key terms related to mechanics.

LO1.2: Explain linear dynamics and rotational dynamics.

LO1.3: Interpret relative transformations and the invariance of laws of physics.

CO2: Analyze simple harmonic oscillators in detail.

LO2.1: Explain simple harmonic motion in an oscillatory system.

LO2.2: Solve the differential equation of simple harmonic motion.

CO3: Compare special relativity with Newtonian relativity.

LO3.1: Define key terms related to the special theory of relativity.

LO3.2: Contrast the changes in motion that occurred due to relativistic speed and Non-relativistic speed.

LO3.3: Interpret equivalence of mass and energy, relativistic transformation of momentum and energy and relativistic effects such as relativistic doppler effect.

SECOND SEMESTER

Course: PHYS-MA-2014 Waves and Optics

CO1: Analyze the principle of linearity and superposition, concepts of wave motion and Standing waves.

LO1.1: Define superposition, plane and spherical waves, and stationary waves.

LO1.2: Explain the superposition of waves, the velocity of longitudinal and transverse waves in different media, and the role of standing waves in different physical systems.

LO1.3: Construct Lissajous figures and develop the differential equation of a wave.

CO2: Connect the knowledge obtained from the wave with the behavior of light.

LO2.1: Explain the phenomenon of interference in thin films.

LO2.2: Develop theoretical knowledge of various optical instruments.

LO2.3: Illustrate key concepts of diffraction.

CO3: Understand the basic concept of holography.

LO3.1: Define key terms related to holography.

LO3.2: Demonstrate the construction of holography.

Course: PHYS-MI-2014 Waves and Optics

CO1: Analyze the principle of linearity and superposition, concepts of wave motion and Standing waves.

LO1.1: Define superposition, plane and spherical waves, and stationary waves.

LO1.2: Explain the superposition of waves, the velocity of longitudinal and transverse waves In different media, and the role of standing waves in different physical systems.

LO1.3: Construct Lissajous figures and develop the differential equation of a wave.

CO2: Connect the knowledge obtained from the wave with the behavior of light.

LO2.1: Explain the phenomenon of interference in thin films.

LO2.2: Develop theoretical knowledge of various optical instruments.

LO2.3: Illustrate key concepts of diffraction.

CO3: Understand the basic concept of holography.

LO3.1: Define key terms related to holography.

LO3.2: Demonstrate the construction of holography.

DEPARTMENT OF ZOOLOGY

FIRST SEMESTER

Course : Animal Diversity I (Major)

- 1 Understand the different groups of animals under chordates and non-chordates and their importance.
- 2 Understand the zoogeographical distribution of animals
- 3 Analyze and examine the structural differences between different groups of animals.

Course : Animal Diversity I (Minor)

1. Understand the different groups of animals under chordates and non-chordates and their importance.
2. Understand the zoogeographical distribution of animals
3. Analyze and examine the structural differences between different groups of animals.

Course : Natural resource and management (GEC)

1. Know about the natural resources, its types, sustainable utilization, and management practices.

Course : Freshwater Aquaculture (SEC)

1. Rear fishes under different environmental conditions
2. Prepare fish feeds.
3. Diagnosis of fish health and take prophylactic measures.

SECOND SEMESTER

Course: Animal Diversity II (Major)

1. Understand the different groups of animals under chordates and coelomates, their adaptation and importance.
2. Analyze and examine the structural differences between different groups of animals.

Course: Animal Diversity II (Minor)

1. Understand the different groups of animals under chordates and coelomates, their adaptation and importance.
2. Analyze and examine the structural differences between different groups of animals

Course: Wild Life Conservation and Management (GEC)

1. to know how to protect animals
2. to protect our nature and different species

Course: Aquarium Fish Keeping (SEC)

1. Rear fish in aquariums for entrepreneurship.