OFFICE OF THE PRINCIPAL

GOSSAIGAON COLLEGE, GOSSAIGAON

From,

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Memo No GC: 34/2022-2023/ ***Date: 14/12/2022***

UNDERTAKING

This is to certify that the following documents and information given in respect of the Metrix 2.6 **(2.6.1: Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website and attainment of POs and COs are evaluated)** is true to the best of my knowledge and belief.

1. Programme & Course Outcome
2. Programme Specific Outcome

Principal,
Gossaigaon College, Gossaigaon

Principal,
Gossaigaon College, Gossaigaon

PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME OF DIFFERENT DEPARTMENTS OF THE COLLEGE

DEPARTMENT OF EDUCATION
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

1. Name of the Programme: B.A Education

Programme Outcomes (POs) relating to UG Programme in Education

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Education will include the following:

PO1. Exhibit all-round development of personality.

PO2: Exhibit totality of life experiences received through the manifold activities that is in the school, library, workshop, playground, etc.

PO3: Exhibit control, redirection and submission of instincts.

PO4: Exhibit moral and character development.

PO5: Ability to take up responsibilities and positions of adult life.

PO6: Exhibit disciplinary knowledge, abstract reasoning and problem solving ability in various competitive examinations.

PO7: Exhibit leadership qualities and personal competence.

PO8: Pursuance to higher education and job opportunities in different disciplines.

PO9: Ability to find employment in private/government school as teacher or administrator.

Programme Specific Outcomes (PSOs) relating to UG Programme in Education

PSO1: Exhibit development of social qualities such as - a sense of sacrifice, social service, belongingness, cooperation, fellow-feelings, tolerance, love, respect, sympathy, hospitality, kindness, etc.

PSO2: Exhibit qualities of a good citizenship such as - sense of responsibility, service, loyalty to nation, performing one's duty, leadership, democratic outlook, sentiments of patriotism, nationalism and dedication for the security of the nation.

PSO3: Ability to play an important role in the society in bringing about social change and be of help in removing social evils such as – superstitions, child marriage, evil customs, etc.

PSO4: Exhibit knowledge and understanding of concepts, strategies, methods and techniques of teaching to meet the varied needs of students.

PSO5: Exhibit competency in verbal and nonverbal communication, increase students participation, engagement and achievement, feedback from students, support student participation in classroom activities.

PSO6: Exhibit ability to handle responsibilities and privileges of adult life i.e. ability to face the complex challenges in life.

PSO7: Exhibit ability to conserve social heritage and culture that is important in the preservation and transmission of knowledge.

PSO8: Exhibit knowledge required for curriculum designing, lesson plans, teaching practice, to implement such plans with the help of support system such as ICT to improve teaching-learning process.

PSO9: Exhibit ability to adjust with his/her own environment through education.

DEPARTMENT OF ENGLISH
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

2. Name of the Programme: B.A English

Programme Outcomes (POs) relating to UG Programme in English

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in English will include the following:

PO1: Exhibit artistry and utility of the English language through the study of literature and other contemporary forms of culture.

PO2: Develop critical thinking ability necessary in an academic environment, on the job, and in an increasingly complex, interdependent world.

PO3: Develop capability of performing research, analysis, and criticism of literary and cultural texts from historical period and genres.

PO4: Exhibit development of intellectual flexibility, creativity, and cultural literacy in order to engage in life-long learning.

PO5: Develop an ability to engage in continuous learning for professional growth and development.

Programme Specific Outcomes (PSOs) relating to UG Programme in English

PSO1: Develop ability to read, interpret and write about a diverse range of texts in English.

PSO2: Ability to exhibit competence in analyzing scholarly work in the area of teaching English language, literary research and translation.

PSO3: Develop the ability to understand the process of communicating and interpreting human experiences through literary representation using historical contexts and disciplinary methodologies.

PSO4: Develop the ability to write analytically in a variety of formats, including essays, research papers, reflective writing and critical review of secondary sources.

PSO5: Ability to analyze instances of the variety of literary forms closely in terms of style, figurative language and convention.

DEPARTMENT OF PHILOSOPHY
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

3. Name of the Programme: B.A Philosophy

Programme Outcomes (POs) relating to UG Programme in Philosophy

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Philosophy will include the following:

PO1: Exhibit critical and logical thinking ability; demonstrate creative thinking, inquiry and capacity to analyze various critical situations in life in a constructive way.

PO2: Exhibit ethical thinking ability i.e. ability to distinguish between good and bad, right and wrong.

PO3: Develop strong foundation of personality and character.

PO4: Develop aesthetic view of life.

PO5: Develop the ability to communicate well with others and express one's opinion and ideas about an issue from different perspectives.

PO6: Develop the ability to find a rational solution to various situations that come across in one's life and others.

PO7: Exhibit social and personal responsibility and the ability to engage effectively in the regional and national communities through ethical decision-making.

Programme Specific Outcomes (PSOs) relating to UG Programme in Philosophy

PSO1: Demonstrate an understanding of the concept, aims and history of philosophy, including knowing major doctrines; understand the different methods of doing philosophy, understanding their significance and applying them in the relevant areas.

PSO2: Exhibit development of moral consciousness that enables the students to become complete human beings, honest and responsible citizens.

PSO3: Demonstrate the ability to understanding the different values such as personal and social values.

PSO4: Ability to understand the value of the total existence of all beings and their harmonious relations, building ability to live in harmony in the midst of diversity.

PSO5: Ability to understand the significance of the different kinds of traditions, social change and the role of philosophy in guiding each and every aspect of life and evaluating them.

PSO6: Demonstrate ability for logical and valid argumentation; the ability to listen and understand others view points and also develops the ability to give their own opinion.

PSO7: Demonstrate the capacity to become a good philosopher, or a good teacher, or a good parent, or a good academician, politician or social scientist, etc.

DEPARTMENT OF ASSAMESE
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

4. Name of the Programme: B.A Assamese

Programme Outcomes (POs) relating to UG Programme in Assamese

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Assamese will include the following:

PO1: Develop a lucid and systematic knowledge of Assamese Literature, Language and Culture.
PO2: Exhibit competence over the Assamese language and the ability to enhance their vocabulary and communicative skills.
PO3: Develop knowledge on various aspects like tourism, agriculture, and indigenous dress and ornaments of the Assamese people.
PO4: Exhibit qualities of critical thinking, effective communication, good citizenship, human resource, etc.
PO5: Exhibit knowledge of World Literature, Comparative Literature, Film Studies and Digital Humanities.
PO6: Ability to get opportunity for post graduation in literature, linguistics, cultural studies, mass communication and tourism.
PO7: Ability to get a suitable employment as teachers, motivators, tourist guide, journalist, etc.

Programme Specific Outcomes (PSOs) relating to UG Programme in Assamese

PSO1: Develop knowledge and information on the Assamese language, literature, culture and tradition.
PSO2: Demonstrate acquisition of knowledge in the Social Sciences and humanities and be able to participate in and contribute to the society through critical thinking.
PSO3: Develop an understanding of the socio-economic, historical, geographical, political, ideological, philosophical and cultural traditions of the Assamese society.
PSO4: Ability to get an opportunity for post graduate studies in literature, linguistics, cultural studies, mass communication and tourism.
PSO5: Acquisition of knowledge on various Modern western and Indian Writers who writes so many famous books in their life.
PSO6: Develop critical thinking and understanding among the students in the light of Indian Literature& Assamese literature.
PSO7: Exhibit development of good personal and moral character and be good and honest citizens in the society.

DEPARTMENT OF ZOOLOGY
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

5. Name of the Programme: B.A Zoology

Programme Outcomes (POs) relating to UG Programme in Zoology

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Zoology will include the following:

PO1: Develop scientific tempers and attitudes among the students which in turn can prove to be beneficial to the society.

PO2: Develop knowledge and skill in the fundamentals of animal sciences; understand the complex interactions among various living organisms of nature.

PO3: Develop an ability to analyze complex interactions among various animals, birds and plant species, their distribution and their relationship with the environment so as to maintain balance in ecological system.

PO4: Ability to apply the knowledge gained from the programme to any of the multiple agro based small scale industries like, pig farming, fish farming (pisciculture) sericulture Bee farming, butterfly farming and vermicompost preparation, etc.

PO5: Ability to apply the ethical principles gained through the course of study and commit to professional ethics and responsibilities in delivering his/her duties.

PO6: Ability to get a suitable employment such areas like animal behaviorist, zoo curator, wildlife educator, zoology faculty, forensic experts, lab technicians, fish farming, Poultry farming, bee keeping, sericulturists, integrated animal farm practices, etc.

Programme Specific Outcomes (PSOs) relating to UG Programme in Zoology

PSO1: Develop an understanding of the nature and basic concepts of Cell biology, genetics, taxonomy, physiology, ecology, evolution biostatistics, animal behaviour, biochemistry and applied zoology.

PSO2: Develop the ability to analyze the relationship between animals, plants and microbes.

PSO3: Develop an understanding of the environmental conservation process and its importance like ecosystem, biodiversity and protection of endangered species of plants and animals.

PSO4: Develop an interest to go for higher studies and then do research work and contribute to the enrich existing scientific knowledge.

PSO5: Ability to discover horizon of new avenues and contribute new knowledge for nation building.

DEPARTMENT OF MATHEMATICS
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

6. Name of the Programme: B.A Mathematics

Programme Outcomes (POs) relating to UG Programme in Mathematics

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Mathematics will include the following:

PO1: Ability to demonstrate basic manipulative skills in algebra, geometry, trigonometry, and beginning calculus.

PO2: Develop the ability to apply the basic structures of mathematics (i.e. sets, relations and functions, logical structure) and the relationships among them.

PO3: Ability to investigate and apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry, and illustrate these solutions using symbolic, numeric, or graphical methods.

PO4: Develop the ability to present mathematics clearly and precisely, make vague ideas precise and clear by formulating them in the language of mathematics, describe mathematical ideas from multiple perspectives and explain fundamental concepts of mathematics to non-mathematicians in an easy way.

PO5: Develop the ability to utilize mathematics to solve theoretical and applied problems by critical understanding, analysis and synthesis.

PO6: Develop an interest to go for higher studies and also possess basic subject knowledge required for higher studies, professional and applied courses like Management Studies, Law etc.

PO7: Gain opportunity for employment in banking, insurance and investment sectors, data analyst and in various other public and private enterprises.

Programme Specific Outcomes (PSOs) relating to UG Programme in Mathematics

PSO1: Develop the ability to recall basic facts about mathematics and display knowledge of conventions such as notations, terminology; also exhibit development of scientific temper among the students.

PSO2: Development of positive attitude among students towards mathematics as an interesting and valuable subject of study.

PSO3: Develop the ability to apply their mathematical skills and knowledge, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

PSO4: Develop knowledge on topics in pure mathematics, empowering the students to pursue higher degrees.

PSO5: Develop problem solving skills, thinking, creativity through assignments, project work, etc.

DEPARTMENT OF BOTANY
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

7. Name of the Programme: B.A Botany

Programme Outcomes (POs) relating to UG Programme in Botany

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Botany will include the following:

PO1: Develop knowledge and understanding of wide range of plant diversity in terms of structure, function and environmental relationships, evaluation and classification of plant diversity, role of plants in the eco-system, etc.

PO2: Develop intellectual skills such as ability to think logically, assimilate knowledge, transfer of appropriate knowledge, etc.

PO3: Develop practical skills to carry out practical work in the field and in the laboratory; develop proficiency in interpreting plant morphology and anatomy, plant identification, vegetation analysis techniques, etc.

PO4: Develop the ability to identify the taxonomic position of plants, analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany.

PO5: Develop an understanding the impact of the plant diversity in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO6: Ability to apply ethical principles and commit to environmental ethics and responsibilities and norms of the biodiversity conservation.

Programme Specific Outcomes (PSOs) relating to UG Programme in Botany

PSO1: Develop the ability to compare and contrast the characteristics of the different groups of plants such as algae, fungi, bryophytes, pteridophytes, gymnosperms and angiosperms.

PSO2: Develop the ability to explain Biodiversity, climate change and plant pathology.

PSO3: Develop the ability to explain how plants function at gene, genome, cellular and tissue level.

PSO4: Develop the ability to relate the physical features of the environment to the structure of populations, communities, and ecosystems.

PSO5: Develop the idea of artificial propagation of plants through vegetative methods and to find a livelihood by establishing small plant nurseries.

PSO6: Develop interest in pursuing higher education.

DEPARTMENT OF BODO
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

8. Name of the Programme: B.A Bodo

Programme Outcomes (POs) relating to UG Programme in Bodo

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Bodo will include the following:

PO1: Acquire knowledge on the history and development of Bodo Literature, Language and Culture.
PO2: Exhibit competence over the Bodo language and the ability to enhance their vocabulary and communicative skills.
PO3: Acquisition of knowledge and information about Bodo society, customs and traditions, etc.
PO4: Exhibit qualities of critical thinking, effective communication in Bodo language.
PO5: Develop interest in pursuing higher studies and contribute new knowledge in Bodo language and literature.
PO6: Ability to get a suitable employment as teachers, motivators, journalist, etc.
PO7: Exhibit the development of good moral and personal character.

Programme Specific Outcomes (PSOs) relating to UG Programme in Bodo

PSO1: Develop knowledge and information on the Bodo language, literature, culture and tradition.
PSO2: Demonstrate acquisition of knowledge in Bodo literature and be able to participate in and contribute to the society.
PSO3: Develop an understanding of the socio-economic, historical, geographical, political, ideological, philosophical and cultural traditions of the Bodo society.
PSO4: Ability to get an opportunity for post graduate studies in literature, linguistics, cultural studies.
PSO5: Develop skill in creative writing and proficiency in the use of Bodo language and literature.
PSO6: Develop critical thinking and understanding among the students in the light of Indian Literature& Bodo literature.

DEPARTMENT OF HISTORY
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

9. Name of the Programme: B.A History

Programme Outcomes (POs) relating to UG Programme in History

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in History will include the following:

PO1: Students will gain knowledge of ancient, medieval and modern Indian history.
PO2: Able to explain why, how and when important events occur.
PO3: Enlighten the knowledge of current historical debates.
PO4: Elucidate the background of Stone Age, religions, Indian civilizations, customs, economy and political administration and develop the ability to make a comparative analysis with the present existing events.
PO5: Develop the ability to express their thoughts clearly both in writing and orally.
PO6. Develop the ability to analyze historical documents and develop the ability to think critically and historically when discussing the past.

Programme Specific Outcomes (PSOs) relating to UG Programme in History.

PSO1: Enable the students to gather knowledge about the socio- cultural heritage of India and the world.
PSO2: Help students prepare for various competitive exams.
PSO3: Help students to understand the present day problems at regional, national and international level accurately and objectively.
PSO4: Enable the students to develop knowledge, understanding, critical thinking, practical skills, interests, attitude relating to historical matters.
PS05: Helps in providing employment in the areas like archaeology, research centre, tourism etc.

DEPARTMENT OF GEOGRAPHY
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

10. Name of the Programme: B.A Geography

Programme Outcomes (POs) relating to UG Programme in Geography

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Geography will include the following:

PO1: Acquire knowledge of physical and cultural features of the earth and able to locate them on a map.

PO2: Provide knowledge about the basic concepts and terminologies used in Geography like interior of the earth, plate tectonic, sea floor spreading, population growth, disasters, composition and structure of atmosphere, hydrosphere, etc.

PO3: Able to gain knowledge about GIS (Geographic Information System) and Remote sensing and learn the use of computer application for cartographic designs.

PO4: Acquire knowledge of quantitative methods and make use of statistical and cartographical methods to solve geographical problem and analyze data.

PO5: Elucidate the knowledge of how the physical environment, human societies, and local and global economic systems are integral to the principles of sustainable development.

PO6: Acquire knowledge of the various theoretical and methodological approaches in both physical and human geography and be able to develop research questions and critically analyze both qualitative and quantitative data to answer those questions.

PO7: Able to interpret topographical and weather maps carry out surveying and prepare maps for areas with the help of surveying techniques.

Program Specific Outcomes (PSOs) relating to UG Programme in Geography:

PSO1: Students acquire information of the physiographic division and economic resources of India and the world.

PSO2: Acquire knowledge of basic surveying and map reading.

PSO3: Develop the ability to apply geographical knowledge in their daily life like being alert about the disasters, weather and climate data.

PSO4: Explain the fundamental concepts in different domains of geography.

PSO5: Exhibit the knowledge and importance of man and environment relationship.

PSO6: Field trips and practical learning enrich their observation power and help in identifying the socio environmental problems in their area.

PSO7: Develop the ability to analyze the differential pattern of human settlement on earth through the study of human habitation and population studies and understand the regional disparities, unemployment and poverty and the impacts of globalization.

DEPARTMENT OF PHYSICS
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

11. Name of the Programme: B.A Physics

Programme Outcomes (POs) relating to UG Programme in Physics

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Physics will include the following:

PO1: Develop an appropriate knowledge on the foundations of physics.

PO2: Ability to develop the mathematical concepts involved in the analysis and formulation of the core courses including mechanics, thermodynamics, classical and quantum mechanics, and statistical mechanics.

PO3: Develop the ability to formulate, conduct, analyze, and interpret experiments in physics.

PO4: Develop the ability to explore the nature of the physical world.

PO5: Develop positive attitude and values including perception about the impact of physical sciences in various social, economical, and environmental issues.

PO6: Develop the ability to understanding the professional and ethical responsibility to society; accumulate capacity and desire for life-long learning to improve themselves as good citizens.

PO7: Develop an interest for higher studies in the relevant field.

Program Specific Outcomes (PSOs) relating to UG Programme in Physics:

PSO1: Development of basic knowledge in physics such as classical mechanics, quantum mechanics, electromagnetic theory, electronics, optics, special theory of relativity and modern physics.

PSO2: Develop an ability to design and conduct an experiment demonstrating their understanding of the scientific method and processes.

PSO3: Develop the proficiency in the acquisition of data using a variety of laboratory instruments and in the analysis and interpretation of such data.

PSO4: Develop an ability to understand the impact of physics and science on society.

PSO5: Ability to find suitable employment.

DEPARTMENT OF CHEMISTRY
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

12. Name of the Programme: B.A Chemistry

Programme Outcomes (POs) relating to UG Programme in Chemistry

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Chemistry will include the following:

PO-1: Develop a comprehensive understanding about the fundamentals of chemistry covering all the principles and perspectives.

PO-2: Different branches of Chemistry such as Organic Chemistry, Inorganic Chemistry, Physical Chemistry and Analytical Chemistry expose the diversified aspects of chemistry where the students experience a broader outlook of the subject.

PO-3: Enable students to appreciate the applications of chemistry in day to day life and explore new areas of Chemistry.

PO-4: Develops ethical awareness on the impact of chemistry on environment, society and also make development outside the scientific community.

PO-5: Develop knowledge about various chemical reactions thereby acquire skills of handling the poisonous, explosive chemicals making themselves employable in any kind of chemical industries.

PO-6: Enable to explore the career options in public and private sector.

Program Specific Outcomes (PSOs) relating to UG Programme in Chemistry:

PSO-1: Develop an ability to understand the existence of matter in the universe as solids, liquids, and gases which are composed of molecules, atoms and sub atomic particles.

PSO-2: Ability to estimate inorganic salt mixtures and organic compounds both qualitatively and quantitatively using the classical methods of analysis in practical classes.

PSO-3: Ability to grasp the mechanisms of different types of reactions both organic and inorganic and will try to predict the products of unknown reactions.

PSO-4: Ability to synthesize the chemical compounds by maneuvering the addition of reagents under optimum reaction conditions

DEPARTMENT OF ECONOMICS
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

13. Name of the Programme: B.A Economics

Programme Outcomes (POs) relating to UG Programme in Economics

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Economics will include the following:

PO1: The students after completion of B.A. programme in Economics will develop understanding of the major concepts, theories and principles in Economics.

PO2: Demonstrate knowledge of macro and micro economics theory related to current macroeconomic policies and issues, markets, govt. policy and resource allocation.

PO2: Enable them to think critically and analyze economic behavior in practice.

PO3: Develop the ability to have effective oral communication and writing skills for clearly expressing economic point of view.

PO4: Enable the students to secure employment in various services of economics, statistics and banking etc.

PO5: Able to understand about the functioning of state and central Govt. budget and different economic crisis and final solution to economic problems.

PO6: Students will be able to gain knowledge about the domestic and international economic and organizational environments.

Programme Specific Outcomes (PSOs) relating to UG Programme in Economics.

PSO1: Enable the students to use basic mathematical and statistical tool for analysis or solving economic problems.

PSO2: Exhibit ability to understand the functioning of banks, monetary and financial sectors of the economy.

PSO3: Enable them to solve problem through application of appropriate theories, principles and data.

PSO4: Help students understand the behavior of economic agents and economic variables including inflation, unemployment, and poverty, GDP etc of the domestic economy and of the world.

PSO5: Help them acquaint with the basic issues of Indian economy related to growth, development and sustainable development.

PSO6: Equips students with knowledge to take up higher education course like MBA, researchers or take up entrepreneurial activities.

DEPARTMENT OF POLITICAL SCIENCE
GOSSAIGAON COLLEGE
PROGRAMME OUTCOME AND PROGRAMME SPECIFIC OUTCOME

14. Name of the Programme: B.A Political science.

Programme Outcomes (POs) relating to UG Programme in Political Science

Some of the desirable learning outcomes which a student should be able to demonstrate on completion of Bachelor's Degree in Political Science will include the following:

PO1: Students have an in-depth knowledge of Indian Political system, Political thinkers, and administrative system.

PO2: Inculcate among students a basic understanding of rights and duties of a citizenship and nurture among students a sense of responsible citizen.

PO3: Able to make a comparative analysis of the power and functions of President and the Prime Minister of the countries like UK, USA, China , France etc.

PO4: Enable to analyze the political and policy problems and formulate policy options.

PO5: Helps students to participate and prepare for a variety of careers including journalism, Law, international affairs, Civil services, NGO etc.

Programme Specific Outcomes (PSOs) relating to UG Programme in Political Science:

PSO1: Enhance the knowledge of ancient and Modern Governments, Constitutions and different kind of government, Law making process and Judiciary system in India.

PSO2: Develop an understanding of the Indian Social Movements and Political Parties, issues of the society.

PSO3: Able to distinguish between the federal and unitary form of government, presidential and parliamentary systems.

PSO4: Enables the student to have a clear understand regarding the inter connection between the local, state, national and international politics.

PSO5: Develop the ability to know the political activities in other countries and its impact on its own nation and also helps in analyzing the social issues from political perspectives.

PSO6: Helps students develop a sense of becoming a social activist with acquired constitutional knowledge.

PSO7: Develop democratic attitude and contribute to nation building by exercising their rights and duties.

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Principal,
Gossaigaon College,Gossaigaon

COURSE OUTCOME

Gossaigaon College, Gossaigaon
Subject: Physics (DSC/GE)

Semester: I

Paper Title: Mechanics
Paper Code: GE-1

Paper	Name of the topic	Course Outcome
PHY-101R	Mechanics	• The students are able to understand vectors. • The students are able to learn ordinary differential equation. • The students are able to understand laws of motion. • The students able to understand momentum and Energy. • The students able to understand about Rotational motion. • The students able to understand about Gravitation. • The students able to understand about oscillation. • The students able to understand about Elasticity. • The students able to understand about Special theory of Relativity

*Students also learn lab practical related to this topic.

Semester: II

Paper Title: Electricity, Magnetism and EMT
Paper Code: GE-2

Paper	Name of the topic	Course Outcome
PHY-201R	Electricity, Magnetism and EMT	• Students are able to understand about vector analysis. • Students are able to understand about electrostatics. • Students are able to gain knowledge about magnetism. • Students have learned about electromagnetic induction. • Students have learned about Maxwell's equation and Electromagnetic wave propagation.

*Students also learn lab practical related to this topic.

Semester: III

Paper Title: Thermal Physics and Statistical Mechanics
Paper Code: GE-3

Paper	Name of the topic	Course Outcome
PHY-301R	Thermal Physics and Statistical Mechanics	• The students have learned in details about laws of thermodynamics. • The students have learned about thermodynamical potential. • The students have gained knowledge about kinetic theory of gases. • The students have learned about theory of radiation. • The students have learned in details about statistical mechanics.

*Students also learn lab practical related to this topic.

Semester: IV

Paper Title: Waves and Optics
Paper Code: GE-4

Paper	Name of the topic	Course Outcome
PHY-401R	Waves and Optics	• Students are able to understand about superposition of collinear harmonic oscillations. • Students are able to understand about superposition of two perpendicular oscillations. • Students are able to understand about wave motion. • Students are able to understand about fluids. • Students are able to understand about sound. • Students are able to understand about wave optics. • Students are able to understand about interference, diffraction and polarization.

*Students also learn lab practical related to this topic.

Gossaigaon College, Gossaigaon
Subject : Assamese (Honours)
Semester : 1st
Paper Title : History of Assamese Literature
Paper Code : C_1

Unit	Name of the Topic	Course Outcome
1	Assamese Oral Literature (Introduction, Concepts, Characteristics and its Development.	➢ The students are able to acquire knowledge about the origin and base of Assamese Oral Literature. ➢ The students are able to understand the main characteristics of oral Literature. ➢ The students are able to acquire knowledge about classification of Assamese Oral Literature and their development also.
2	Assamese Classical Literature (Pre-Sankari, Sankari and Post Sankari) Age	➢ The students are able to know that Sankardeva is the mile stone of Assamese Classical Vaishnavite Literature's era. ➢ The students are able to acquire the vast knowledge about Assamese Classical Literature in three main eras.
3	Assamese Missionary Literature (1836 – 1846)	➢ The students are able to know the Missionary Period of Assamese Literature. ➢ The students are able to earn knowledge about "Arunodoi", the first Modern Assamese Printed News Paper and its contribution to Assamese Literature.
4	Assamese Romantic Literature (1846 – 1940)	➢ The students are able to acquire knowledge about Assamese Romantic period. ➢ The students are able to earn knowledge about Assamese Romantic Literate like Laxminath Bezbaruah, Chandra Kumar Agarwala, Hemchandra Goswami, Sarat Chandra Goswami etc.
5	Post War Assamese Literature (1940 -)	➢ The students are able to pick up the knowledge about direct and indirect impact of Second World War in Assamese Literature's trend and tendencies.

HEAD
Department of Assamese
College Gossaigaon

Subject : Assamese (Honours)
Semester : 1st
Paper Title : History of Assamese Language
Paper Code : C_2

Unit	Name of the Topic	Course Outcome
1	Origin and Development of Assamese Language (5^{th} to 13^{th} Century)	➢ The students are able to acquire knowledge about the origin and base of Assamese Language. ➢ The students are able to earn knowledge about the root of Assamese Language, which was found in various manuscripts. ➢ The students are able to know various view point about origin and base of Assamese Language.
2	Early Assamese Language (13^{th} – 16^{th} Century)	➢ The students are able to earn knowledge about the stages of Early Assamese Language. ➢ The students are able to understand how much Sankardeva contributed to development of Assamese Language. ➢ Moreover, students are able to acquire knowledge of Pre-Sankari, Sankari and Post Sankari era in Assamese Language.
3	Medieval Assamese Language (17^{th} Century – 1800 AD)	➢ The students are able to understand vast knowledge of Medieval Assamese Language. ➢ In this period the course depicts the development of Assamese Language through the text of Assam History, Bhattadeva and his follower's written text and the text of Guru Charita – These all are known to the students.
4	Modern Assamese Language of Missionary Period (1800AD to 1850AD)	➢ The students are able to know the development of Assamese Language in Missionary Period. ➢ The students are acquire knowledge about the contribution of Christian Missionary's to history of Assamese Language like Anglo-Assamese Dictionary, Assamese Grammar etc.
5	Modern Assamese Language (Since 1850)	➢ The students are able to understand how the Assamese Language is developed actually and established as state language. ➢ The students are acquire knowledge about the contribution of some prominent Assamese writer and their language-style, like Laxminath Bezbaruah's language, Benudhar Sharma's language etc.

HEAD
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Subject : **Assamese (Honours)**
Semester : **2nd**
Paper Title : **Cultural Behavior of Assam**
Paper Code : **C_3**

Unit	Name of the Topic	Course Outcome
1	Definition, Classification, Scope and importance of Culture with Special reference to Folk Culture	➢ The students are able to understand the definition of Culture with reference to Folk Culture. ➢ The students are able to acquire knowledge about the Classification of Culture. ➢ The students are able to understand the Scope and importance of Folk Culture.
2	Behavioral Pattern of Society: Material Culture	➢ The students are able to understand the Behavioral Pattern of Society, Material Culture. ➢ The students are able to acquire knowledge about Folk Craft, Folk Art, Folk Architecture, Folk Costume, Folk Cookery, Folk Music, Folk Dance etc.
3	Festivals and Rituals	➢ The students are able to acquire knowledge about Folk Festivals and their celebration methods. ➢ The students are able to earn knowledge about recreation and games, folk medicine and folk religion.
4	Cultural Issues (Special reference to Bodo, Rabha and Karbi)	➢ The students are able to understand the cultural issues of Assam specially in tribal society (Bodo, Rabha and Karbi).
5	Origin Names of Assam, Origin People of Assam	➢ The students are able to know about various sources of Origin names of Assam, Origin People of Assam and their contributions.

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Subject : Assamese (Honours)
Semester : 2nd
Paper Title : Functional Grammar of Assamese Language
Paper Code : C_4

Unit	Name of the Topic	Course Outcome
1	History of Assamese Grammar, Classification of Assamese Grammar, Necessity of Assamese Grammar	➢ The students are able to understand knowledge about the History of Assamese Grammar from early period. ➢ The students acquire knowledge about the Classification of Assamese Grammar. They can signify which one is preferable in today's perspective for Assamese Language. ➢ The students are able to earn knowledge about the necessity of Assamese Grammar. They can learn that without grammar any language is value less in entire world.
2	Definition, Classification of Parts of Speech, Noun, Pronoun, Adjective, Verb and Case.	➢ The students are able to understand the importance of Parts of Speech in Assamese discourse.
3	Semantic Properties	➢ The students are able to understand Semantic Properties of Assamese Language, how the words are formed, root of words, antonyms, synonyms etc.
4	Sentence Structure	➢ The students are able to acquire knowledge about sentence formation, classification of sentence and transformation of sentence.
5	Assamese Vocabulary	➢ The students are able to acquire knowledge about words stock of Assamese Language. They can learn the origins and sources of Assamese Vocabulary.

For HEAD
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Goessaigaon College Goessaigaon

Subject : Assamese (Honours)
Semester : 3rd
Paper Title : Study on Assamese Folk Cultural
Paper Code : C_5

Unit	Name of the Topic	Course Outcome
1	Introduction, Definition and Classification of Folk Culture	➢ The students are able to understand about definition and classification of Folk Culture.
2	Folk Songs and its Varieties	➢ The students are able to acquire knowledge about folk songs and its varieties like Bihu, Ainam, Zikir, Jari, Biyanam etc.
3	Folk Tales and its Varieties	➢ The students are able to acquire knowledge about the varieties of Folk Tales of Assam.
4	Assamese Phrases and Idioms, Proverbs and Riddles	➢ The students are able to acquire knowledge about variety of Assamese Phrases, Idioms, Proverbs and Riddles for which given a significant of Assamese Language.
5	Folk Drama and its Varieties	➢ The students are able to acquire knowledge about various Folk Drama represented by various people of Assam and its elements in Assamese Literature also.

HEAD
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Gossaigaon College, Gossaigaon

Subject : **Assamese (Honours)**
Semester : **3rd**
Paper Title : **Study on Assamese Drama**
Paper Code : **C_6**

Unit	Name of the Topic	Course Outcome
1	Original Development of Assamese Drama	➢ The students are able to earn the knowledge about Original Development of Assamese Drama with various forms and features of Ankia Nat. ➢ The students are able to understand the trends of Modern Assamese Drama in contemporary perspective.
2	Sankardeva : Rukmini Haran Nat	➢ The students are able to learn Sankardeva contribution to Assamese Drama. They can acqire knowledge about Ankia Nat is created by Sankardeva. By study of Rukmini Haran Nat, the students are able to understand what is Ankia Nat actually.
3	Shriram Ata : Kansha Badh	➢ The students are able to understand Shriram Ata's contribution to Assamese Drama and characteristics of Shriram Ata's Drama.
4	Jyoti Prasad Agarwala : Rupalim	➢ The students are able to understand Jyoti Prasad Agarwala's contribution to Modern Assamese Drama. ➢ The students are able to acquire knowledge about Assamese Society which is reflected on Rupalim.
5	Arun Sarma : Nibaran Bhattacharya	➢ The students are able to know about Arun Sarma's contribution to Modern Assamese Drama. ➢ The students are able to acquire knowledge about Absurd Drama, Form of Modern Assamese Drama which is reflected on Nibaran Bhattacharya.

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Gossaigaon College

Subject : Assamese (Honours)
Semester : 3rd
Paper Title : Introduction to Assamese Prose and Criticism
Paper Code : C_7

Unit	Name of the Topic	Course Outcome
1	Sankardeva : Srikrishnar Purvarag Bhattadeva : Katha Gita Gopal Chandra Dwij : Gurusewa Mahatmya	➢ The students are able to acquire knowledge about contribution of Senkardeva, Bhattadeva and Gopal Chandra Dwij to Assamese Prose. They can earn knowledge about the main features of Sankardeva's, Bhattadeva's and Gopal Chandra Dwij's Prose style.
2	Nathan Brawn : Sri Jut Brawn Chahabar Patra Laxminath Bejbaruah : Gita Tattva Banikanta Kakati : Sahityat Karun Rasa	➢ The students are able to acquire knowledge about contribution of Nathan Brawn, Laxminath Bejbaruah and Banikanta Kakati to Assamese Prose. They can earn knowledge about the main linguistic features of the above authors.
3	Hem Barua : Bharatiya Sanskriti Birendra Kumar Bhattacharya : Dharma Nagen Saikia : Unavimsha Satikar Navajagaran aru Adhunik Asamiya Man	➢ The students are able to acquire knowledge about Hem Barua's contribution to Assamese Prose and they can learn that Indian Culture always reflects "Unity of Diversity". ➢ The students are able to understand Birendra Kumar Bhattacharya and Nagen Saikia's prose style through the recommended text.
4	History of Assamese Criticism	➢ The students are able to understand knowledge about History, Development of Assamese Criticism and some major critics such as Banikanta Kakati, Maheswar Neog, Mahendra Bora, Homen Borgohain, Hiren Gohain etc.
5	Maheswar Neog : Banikanta Kakatir Rachana Mahendra Bora : Biswa Sahityar Pariprekshitat Asamiya Upanyas Hiren Gohain : Jyoti Prasad, Silpi aru Sanskriti	➢ The students are able to acquire knowledge about Maheswar Neog, Mahendra Bora and Hiren Gohain's contribution to Assamese criticism. ➢ Through the chapter "Banikanta Kakatir Rachana", students are able to learn Banikanta Kakati's Prose style. ➢ Through the chapter "Biswa Sahityar Pariprekshitat Asamiya Upanyas", students can achieve the position of Assamese Novel in the world literature perspective. ➢ Through the chapter "Jyoti Prasad, Silpi aru Sanskriti", students are able to know Jyoti Prasad's cultural related ideas.

For HEAD
Department of Assamese

Subject : Assamese (Honours)
Semester : 4th
Paper Title : Study on Literary Criticism (East and West)
Paper Code : C_8

Unit	Name of the Topic	Course Outcome
1	Definition and Importance of Criticism	➢ The students are able to acquire knowledge about Criticism. They can earn knowledge about fundamentals of western tradition of literary theory and criticism essentially derives from the Greeks. ➢ The students are able to acquire knowledge about Indian criticism constitutes an important and largely untapped resource for literary theorist.
2	Dhvani and Rasa (Definition and characteristics)	➢ In the theory of Dhvani, the students are able to learn a change from literary excellence or poetic figure to the inner content of poetry in the history of Indian Literature. ➢ Rasa, literally means 'essence or taste', it connotes a concept in Indian art form about the aesthetic flavor of literature. By studying this students can learn about Theory of Rasa and it's characteristics.
3	Guna, Vakrokti and Riti (Definition and characteristics)	➢ The students are able to acquire knowledge about Guna, Vakrokti and Riti, the aesthetic theories of Indian criticism and their characteristics.
4	Poetry and Drama (Definition and Characteristics)	➢ The students are able to understand theoretical knowledge about Poetry and Drama, the two major elements of Literature. They can learn many definitions and characteristics are explained by various critique from east and west.
5	Short Story and Novel (Definition and Characteristics)	➢ The students are able to understand theoretical knowledge about Short Story and Novel, the two major elements of Literature. They can learn many definitions and characteristics are explained by various critique from east and west.

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Subject : **Assamese (Honours)**
Semester : **4th**
Paper Title : **Language Varieties**
Paper Code : **C_9**

Unit	Name of the Topic	Course Outcome
1	Definition of Language and It's varieties	➢ The students are able to learn 'what is language' and it's various form, such as Idiolect, Dialect, First Language, State Language, National Language, Regional Language, Standard Language and Lingua Franca.
2	Language Varieties of Assam	➢ The students are able to acquire knowledge about language varieties of Assam. They are able to earn knowledge about Assamese Language as Idiolect, Kamrupi as Dialect, Bodo, Rabha as Regional Language, Nagamese as Lingua Franca.
3	Grammar and Vocabulary of Language varities of Assam	➢ The students are able to acquire knowledge about Grammar and Vocabulary of various languages of Assam.
4	Use of Language Varieties in Modern Assamese Language	➢ The students can earn knowledge and detect the use of Language variety in Modern Assamese Language as part of their daily life.
5	Use of Language Varieties in Audio-Visual Media	➢ Now-a-days, audio-visual media is the most important part of our life. The students are given the scope to tell the usage of Language-Varieties in audio-visual media.

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Subject : Assamese (Honours)
Semester : 4th
Paper Title : Study on Assamese Language
Paper Code : C_{10}

Unit	Name of the Topic	Course Outcome
1	Brief introduction to Indo-European language	➢ The students are able to acquire vast knowledge about Indo-European language family.
2	Origin and Development of Assamese language	➢ The students are able to earn knowledge about origin if Assamese language and development history.
3	Relation between Assamese and Pali-Prakrit-Apabhramsa	➢ The students are able to understand knowledge about Assamese language as a part of Indo Aryan languages. And how the language is developed from Sanskrit through three important stages Pali-Prakrit and Apabhramsa.
4	Brief introduction and impact of non-Aryan language on Assamese language	➢ 'Assamese' is an Indo Aryan language. But, in Assam, language variation is shown here such as Aryan, non Aryan and other kind of languages are used in here. So, by studying this, the students are able to earn knowledge about the impact of non Aryan on Assamese language.
5	Major Dialect of Assamese language and characteristics	➢ The students are able to acquire knowledge about some major Dialects of Standard Language 'Assamese' such as 'Kamrupi', 'Gowalpariya' and their characteristics.

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Subject : Assamese (Honours)
Semester : 5th
Paper Title : Study on General Linguistics
Paper Code : C_{11}

Unit	Name of the Topic	Course Outcome
1	Introduction to Linguistics-Descriptive, Historical, Comparative, Constructive	➢ The students are able to earn knowledge about General Linguistics and some major types of General Linguistics- like Descriptive, Historical, Comparative Linguistics and their basic features.
2	Phonetics-General Introduction	➢ The students are able understand basic knowledge about 'Phonetics' parts of Linguistics.
3	Morphology-General Introduction	➢ In this chapter, the students are able to acquire knowledge about 'Morphology' as a part of Linguistics. They can learn the knowledge, about 'Word Formation', 'Transformation' and suffix, prefix, infix also. They can define the Internal parts of Morphology- 'Morph', 'Morpheme', ' Allomorph' etc.
4	Semantics and Syntax-General Introduction	➢ The students are able to acquire knowledge about Semantic, the study of the meaning of words, phrases, sentences and text. ➢ The study of semantics increases students' understanding and awareness of word meaning, sentence relationships with discourse and context etc. ➢ Syntax is the study of sentence structure. Studying Syntax, the students are able to earn knowledge about necessity of syntax for understanding how languages work.
5	Dialectology and Sociolinguistics-General Introduction	➢ Dialectology is the scientific study of linguistic dialect, a sub-field of sociolinguistic. Studying dialectology the students can learn major variations in language based primarily on geographic distribution and their associated features. ➢ The students are able to acquire knowledge about sociolinguistics the descriptive study of the effect of all aspects of society on language.

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Department of Assamese
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Subject : **Assamese (Honours)**
Semester : **5th**
Paper Title : **Introduction to Literary Trends**
Paper Code : **C_{12}**

Unit	Name of the Topic	Course Outcome
1	Classicism	➢ The students are able to acquire knowledge about classicism, movement of artists and writers derive from the forms and principles of ancient Greece and Rome. ➢ The student can earn knowledge about the aesthetic attitude of classicism dependent on principles based in culture, art and Literature by studying explanation of characteristics and its history.
2	Romanticism	➢ The students are able to earn knowledge about Romanticism, a movement of the eighteen nineteenth centuries that reflect on literature, Philosophy, art etc. ➢ The students can achieve the knowledge about Characteristics and brief history of Romanticism.
3	Modernism	➢ The students are able to acquire knowledge about Modernism, which is used to refer to literary movement originated in the late 19th and early 20th centuries in Europe. ➢ The students can signify the characteristics of modern literature. ➢ The students can learn the modern writes like Virginia Woolf, T.S. Elliot, William Faulkner, James Joyes etc.
4	Realism	➢ Realism, originated with the realist art movement, began with mid-nineteenth century. By studying this, the students are able to realize that, it is an era of literary technique in which the authors describe things as they want to show. ➢ The students are able to detect the difference between Romanticism and Realism, because it is shifted as drama from the exotic and poetic Romanticism. ➢ The students can learn the characteristics and brief history of Realism.
5	Post-Modernism	➢ The students are able to acquire knowledge about Post-Modernism, which encourages the use of elements from historical styles to create satire, illusion, decoration and complexity that reacted against modernism ➢ The students can earn knowledge abut the main features and history of post-modernism. ➢ The can learn about post-modernism writer like Umberto Eco, Thomas Berger etc.

For HEAD
Department of Assamese
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Subject : Assamese (Honours)
Semester : 5th
Paper Title : Introduction to Assamese Romantic and Modern Poetry
Paper Code : DSE-1

Unit	Name of the Topic	Course Outcome
1	Laxminath Bejboruah: Bin Baragi Raghunath Chaudhury: Keteki Jatindra Nath Duarah: Atitak Nejaba Pahari	➢ The students are able to acquire knowledge about Assamese Romantic poetry through 'Bin Baragi','Ketekti' and 'Atitak Nejaba pahari'. ➢ The students can earn knowledge about the main characteristics of Romantic poetry, whichever reflected on Laxminath Bejbaruah, Raghunath Chaudhary and Jatindra Nath Duarah's poetry.
2	Ambikagiri Raychaudhury: Biswadolan Nalinibala devi : Nat ghar Binanda Chandra Baruah : Gargaon	➢ The students are able to acquire knowledge about 'Rahsyabad' (the belief that knowledge of God can be gained by contemplation, spiritual belief) and the trend of 'Rahasyabadi' poem in Assamese through 'Natghar' and 'Biswadolan'. ➢ The students are able to earn the knowledge about patriotic tune of romantic poem through 'Gargaon'. ➢ The students are able to acquire knowledge about characteristics of Raychaudhury, Nalinibala Devi and Binanda Chandra Baruah's poetry.
3	Debakanta Barua : Asarthak Hem Barua : Mamatar Chithi Nabakanta Baruah : Palas	➢ The students are able to acquire knowledge about the middle period connecting between the Romantic and Modern Assamese poetry. ➢ The students can achieve knowledge about Debakanta Barua, Hem Barua and Nabakanta Barua and their contribution to Assamese literature.
4	Nirmal Prabha Bardaloi : Draupadi Nilamani Phukan : Gulapi Jamur Lagan Ram Gogoi : Pathar	➢ The students are able to understand about the features of modern poetry, which are reflected on Draupadi, Gulapi Jamur Lagan and Pathar. ➢ The student can learn knowledge about Nirmal Prabha Bardaloi, Nilamani Phukan and Ram gogoi and their contribution to Assamese modern poetry.
5	Hiren Bhattacharya : Cat phura Gaan Mahendra Bara : Sap Samir Tanti : Ai Usupanibor kan pati Suniba	➢ The students are able to understand about that symbolism is a literary device, which is refected on modern Assamese poetry in the form of allegory. ➢ The students can earn knowledge about Hiren Bhattacharya, Mahendra Bara and Samir Tanti's poetry and their contribution to modern Assamese poetry. ➢ The students can realize how the poets play with words and depict the pictures in their poems.

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Subject : Assamese (Honours)
Semester : 5th
Paper Title : Introduction to Assamese Grammar
Paper Code : DSE-2

Unit	Name of the Topic	Course Outcome
1	Introduction to Grammar, Classification of Grammar, History of Grammar	➢ The students are able to earn general idea of Assamese Grammar, classification of Grammar and History of Assamese Grammar.
2	Elements of Assamese Grammar -Phonetics	➢ The students are able understand basic knowledge about 'Assamese Phonetics' as a part of Assamese Grammar.
3	Elements of Assamese Grammar - Morphology	➢ In this chapter, the students are able to acquire knowledge about 'Assamese Morphology' as a part of Assamese Grammar. They can learn the knowledge, about 'Word Formation', 'Transformation' and suffix, prefix also. They can define the Internal parts of Morphology- 'Morph', 'Morpheme', ' Allomorph' etc.
4	Elements of Assamese Grammar - Syntax	➢ Syntax is the study of sentence structure. Studying Assamese Syntax, the students are able to earn knowledge about necessity of syntax for understanding how the Assamese language works.
5	Elements of Assamese Grammar – Formation of Vocabulary	➢ The students are able to acquire knowledge about Grammar and Vocabulary of Assamese language and word formation.

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Subject : Assamese (Honours)
Semester : 6th
Paper Title : Introduction to Assamese Biography
Paper Code : C-13

Unit	Name of the Topic	Course Outcome
1	Introduction, Definition and Characteristics of Biography and Assamese Biography	➢ The students are able to understand the knowledge about Biography which is a detailed description of a real person's life. They can earn knowledge about characteristics of biography that can differentiate biography from history. ➢ The students can understand the main features of Assamese Biography and are able to acquire knowledge about some major Assamese biography writers.
2	Introduction, Definition and Characteristics of Auto Biography and Assamese Auto Biography	➢ The students are able to pick up the knowledge about Auto Biography and can define with their characteristics. They can detect the differences between Biography and Auto-Biography. ➢ The students are able to acquire knowledge about the principles of Auto-Biography by studying explanation of development and history. ➢ The students can learn some major Auto Biographer from Assamese literature.
3	Biography- Benudar Sarma: Maniram Dewan Jogendra Narayan Bhuyan: Gunabhiram Baruah	➢ The students are able to know about Benudhar Sarma, a distinguished personality as a biographer. ➢ By studying this they can understand that the personality of 'Moniram Dewan', in where Benudhar sarma tried to give some sort interpretation of the forces that made the period significant. ➢ By studying 'Gunabhiram baruah', the students are able to get vivid description of the life and works of Gunebhiram Baruah who made a lot of valuable contribution towards the welfare of Assam and Assamese people in the 19th century.
4	Auto Biography Laxminath Bejbaruah : Mor Jivan Sowaran	➢ The students are able to get the knowledge about the auto biography 'Mor jivan Sowaran', reminiscences of his own life recalled by Laxminath Bejbaruah.
5	Auto Biography Homen Bargohain : Atmanusandhan	➢ The students are able to acquire knowledge about the writing style of Homen Bargohain, which is reflected on 'Atmanusandhan'. ➢ The students can get the knowledge about the stories of Bargohain's life were happened in '1980s decade.

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Subject : Assamese (Honours)
Semester : 6th
Paper Title : Introduction to Indian Literature
Paper Code : C-14

Unit	Name of the Topic	Course Outcome
1	Introduction to Modern Indian Literature, New trends in Modern Indian Literature, with special reference to Assamese, Bengali and Hindi	➢ The students are able to understand the knowledge about Modern Indian Literature, New trends in Modern Indian Literature (like Comparative Literature) vividly. ➢ The students can able to introduced Modern Indian Literature with special referece to Assamese, Bengali and Hindi Literature from the period of British India.
2	Theory of Comparative Literature- Methods and Schools	➢ The students are able to get knowledge about the theory of Comparative Literature and Comparative Indian Literature. ➢ Comparative Literature is an interdisciplinary field whose practitioners study literature across national borders, time periods, languages, genres, boundaries between literature and other art forms. So, the students can acquire the knowledge about the theories and methods of Comparative Literature and the schools – French school, German school and American school.
3	Poetry A. Bengali Bharat Tirtha : Rabindranath Tegore B. Hindi Maun Nimantran : Sumitra Nandan Pant	➢ The students are able to understand knowledge about 'Bharat Tirtha', Tagore envisioned an India imbued with the noblest of her ideas that of tolerance, acceptance, exchange. ➢ The students can learn that the poem depicts the soul of Indian philosophy, culture and tradition. ➢ The students are able to acquire knowledge about prominent Hindi writer Sumitra Nandan Pant and his contributions. By studying 'Maun Nimantran', students can get the knowledge about the depth of feeling, the effort of mystical sincerity of Pant's writings.
4	Short Story A. Bengali Rabindra Nath Tegore : Post Master B. Hindi Premchand : Kanhan	➢ The students are able to get the knowledge about the contribution of Bengali prominent writer Rabindra Nath Tegore and his writing style is reflected on 'Post Master'. ➢ The students can get the vast knowledge of well known figure of Hindi Literature, Munchi Premchand and his contribution to Indian Literature. And also detect the writing styles of Premchand which are shown in 'Kanhan'.

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5	Novel A. Bengali Manik Bandopadhya : Padma Nadir Majhi B. Hindi Phaniswar Nath Renu : Maila Achal	➢ The students are able to acquire knowledge about the writing style of Manik Bandopadhya and his contributin to Bengali Literature, which is reflected on the famous Indian novel 'Padma Nadir Majhi'. ➢ The students can get the knowledge about the writing style and characteristics of Phaniswar Nath Renu's novel, which are shown in 'Maila Achal'.

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COURSE OUTCOMES

Gossaigaon College, Gossaigaon

Subject: English
Semester: I
Paper Title: Indian Classical Literature
Paper Code: C-1

Paper	Name of the Topic	Course Outcomes
ENG-101H	Indian Classical Literature	➢ The students are able to understand and engage with the Indian Epic tradition. ➢ The students are able to gain knowledge about the masterpieces in Indian Classical Literature. ➢ The students are motivated by the superb classical drama of Kalidasa and Sudraka. ➢ The students are motivated to make a comparative study of English literature and Indian Classical literature. ➢ The students are able to understand the richness of Indian literature.

Semester: I
Paper Title: European Classical Literature
Paper Code: C-2

Paper	Name of the Topic	Course Outcomes
ENG-102H	European Classical Literature	➢ The students are able to gain knowledge about the historical background of the European Classical Literature. ➢ The students are able to relate to the historical past of the literary text and are able to relate to the present. ➢ The students are able to learn the European Classical literature along with the great dramatists and poets. ➢ The students are able to learn the major genres- Epic, Tragedy, and Comedy, the structure and the themes of the classical literary traditions. ➢ The students are aware of the literary cultures Augustan I and Athenian city state.

Semester: II
Subject: English
Paper Title: Indian Writing in English
Paper Code: C-3

Paper	Name of the Topic	Course Outcomes
ENG-201H	Indian Writing in English	➢ The students are able to understand the various phases of the evolution in Indian Writing in English. ➢ The students are able to interpret the works of great writers of Indian writers in English. ➢ The students are able to understand how well the Indian culture is reflected in Literature. ➢ The students are able to understand the development of Indian English literature from pre-independence to post-independence era. ➢ The students are aware of Indian cultural ethos and indigenous belief systems through the study of major literary works in the domain of Indian English literature. ➢ The students are able to acquaint with the writings of different Indian writers and help them to appreciate the variety and diversity of Indian Writings in English.

Semester: II
Paper Title: British Poetry and Drama: 14th to 17th Centuries
Paper Title: C-4

Paper	Name of the Topic	Course Outcomes
ENG-202H	British poetry and Drama[14th - 17th century]	➢ The students are able to gain knowledge about British poetry and drama from the age of Chaucer to the age of Pope. ➢ The students are able to gain knowledge about the features of Shakespearean Tragedy and other Elizabethan dramatists such as Marlowe and Webster. ➢ The students are able to gain insight into the growth and development of British drama. ➢ The students are able to understand the socio-political context of the period from 14th century – 17th century. ➢ The students are able to understand the difference between Shakespearean sonnet and Petrarchan sonnet.

Semester: III

Paper Title: American Literature
Paper Code: C-5

Paper	Name of the Topic	Course Outcomes
ENG-301H	American Literature	➢ The students are able to gain knowledge about the society and history of the America through the American Literature. ➢ The students are able to gain knowledge about the American culture, heritage and the accomplishments of the great writers of America. ➢ It helps in developing critical thinking of the students. ➢ The students will have a comprehensive idea of American literature from representative texts in the field of poetry, drama, short story and novel. ➢ The students are able to learn about different Social and Cultural issues in major literary works by American writers.

Paper Title: Popular Literature
Paper Code: C-6

Paper	Name of the Topic	Course Outcomes
ENG-302H	Popular Literature	➢ The students are able to understand the cultural significance of Popular Literature. ➢ The students are able to be aware about the growing importance of Popular literature and its dominant forms. ➢ The students are able to understand dialectics between the canonical and the popular. ➢ Studying Popular literature will be a source of entertainment as well as knowledge for students.

Paper Title: British Poetry and Drama: 17th and 18th Centuries

Paper Code: C-7

Paper	Name of the Topic	Course Outcomes
ENG-303H	British Poetry and Drama(17th – 18th Century)	➢ The students are able to understand the growth and development of English language and Literature. ➢ It aims to acquaint students with Restoration era in England and Politics associated with it. ➢ The students are able to learn about Augustan period through Neoclassical Poetry. ➢ IT also helps to acquaints students with Satiric tradition in English Poetry, Heroic Couplet, Neoclassical Poetry as literature of imitation. ➢ The students are able to gain knowledge about the evolution of drama after Shakespeare focusing both on Jacobean Revenge Tragedy and drama of the Restoration period.

Semester :IV

BRITISH LITERATURE: 18th Century

C-8

Paper	Name of the Topic	Course outcomes
401H	British Literature	> The students are able to understand the 17th C. British Culture and tradition. > The students were able to acquire knowledge about marriage, infidelity as well as inheritance. They were able to understand the psychology of human mind and their willingness to acquire a goal. > The students were able to understand the Neo-Classical Literature, hypocrisies and follies of the people living in London, the concept of Sentimental novel and the inevitable fate of Humanity. > The students were able to understand the satirical elements in Literature.

British Romantic Literature
Paper :C-9
Paper 402H

Unit	Topic	Course outcomes
1	Poetry from Pre-Romantic to Romantic Period.	The students learnt the concept of mysticism; they acquire knowledge about virtue and vice, sins and good deeds. The movement was a celebration of nature and the common man, a focus on individual experience, idealization of women, painting and art.
2.	Fiction: Frankenstein	The students were able to understand the story of Frankenstein where the protagonist challenges the theory of life after death. He challenges the existing norms of mankind.

Paper: C-10
British Literature 19th Century
Paper-403H

Unit	Topic	Course outcome
1	Fiction	>The students were able to understand the novel of 18th and 19th century. >They learnt about irony, adventure, social norms and traditions. >The representation of passion, destruction and comfort and the use of ironical statements in literature as fire and ice. > Feminist criticism can be highlighted as marginalization such as exclusion of women writers from the traditional literary canon.
2	Poetry	>The students were introduced to the Romantic poetry. > The students were able to understand the concept of imagination and fancy, melancholy, Hellenism, supernaturalism and neo-classicism. > Sensuousness of Keats poetry is discussed.

Semester: V
Paper Title: Women's Writing
Paper Code: C-11

Paper	Name of the Topic	Course Outcomes
ENG- 501H	Women's Writing	➢ To enable the students acquainted with the world classic legendary women figures of both American Literature and Indian Literature. ➢ To make the students inspired and encouraged for appreciable activities in the literary field. ➢ To familiarize the students with burning issues of women around the world. ➢ The students are delighted and motivated to get indulged in the literature of English.

Paper Title: British Literature: The Early 20th Century
Paper Code: C-12

Paper	Name of the Topic	Course Outcomes
ENG-502H	British Literature: The Early 20th Century	➢ The students are able to understand the dominant principles of Modernism and Postmodernism as an epochal paradigm shift in society and culture. ➢ The students are able to critically interpret the representative writings of the early 20th century across different genres. ➢ The students are able to assess the importance of psychoanalysis, Stream of Consciousness and myth as tropes of understand the condition of Modernity. ➢ The students are able to learn the early forms of written English and British tradition in literature. ➢ The students are able to read critically and evaluate various forms and types of texts.

Paper Title: Literary Theory
Paper Code: DSE-1

Paper	Name of the Topic	Course Outcomes
ENG-503H	Literary theory	➢ The students were introduced to the Literary Theory. ➢ The students acquire knowledge about dialectical materialism. ➢ The students are able to understand about anthropology, archaeology, urban planning and sociology. ➢ The students understood attitudes and style of critique that developed in critical response to growth and identification.

Paper Title: Literary Criticism
Paper Code: DSE-2

Paper	Name of the Topic	Course Outcomes
ENG-504H	Literary Criticism	➢ The students were introduced to Literary Criticism. ➢ The students acquired knowledge about the art and theory in the Romantic Literature. ➢ The students understood about fancy and imagination distinction. ➢ The students learnt about The exposition at Prosodic Theory, organic and contextual. ➢ The students understood the relationships between authors, readers and literary texts.

Semester: VI
Paper Title: Modern European Drama
Paper Code: C-13

Paper	Name of the Topic	Course Outcomes
ENG-601H	Modern European Drama	➢ The students are able to relate European dramas with their real life. Moreover they can apply the lesson they have learnt through the dramas in their personal life. ➢ The students are able to gain an understanding of history and development of modern European drama. ➢ The students are able to develop their critical thinking with the help of the text. ➢ The students are able to apply theatrical concepts in appreciating drama. ➢ The students are able to analyse and characterise key concepts and theatrical practices along with technological innovation of European Drama after the late 19th century.

Paper Title: Postcolonial Literature
Paper Code: C-14

Paper	Name of the Topic	Course Outcomes
ENG-602H	Postcolonial Literature	➢ The students are able to gain knowledge about the problems and consequences of decolonization looking at its literary representation. ➢ The students are able to learn to look at the literary movement and its texts in the mid-twentieth century through the application of Postcolonial theory. ➢ The students are able to develop an understanding of the relationship between subjugating forces of imperialism and the actual colonial expansion particularly focussing on the radical and subversive narratives. ➢ It include voices of resistance from the former colonies of the terms like racialism and colonialism.

Paper Title: World Literature
Paper Code: DSE-3

Paper	Name of the Topic	Course Outcomes
ENG-603H	World Literature	➢ The students were introduced to The Commonwealth Literature. ➢ The students acquired knowledge about Africa and African culture. ➢ The students understood the themes of personal exile and political corruption. ➢ The students were also introduced to seven Chinese Misty poets which discusses about democracy. ➢ The students also learnt about Canadian cultures which brings together ten plays. ➢ The students also acquire knowledge about The Spiritual pulse of traditional African life and civilization.

Paper Title: Modern Indian Writing in English Translation
Paper Code: DSE-4

Paper	Name of the Topic	Course Outcomes
ENG- 604H	Modern Indian Writing In English Translation	➢ The students were introduced to the Indian Literary Theory, Culture and Civilisation. ➢ The students acquire knowledge about R.N. Tagore, The recipient of Nobel Prize in Literature. ➢ The students understood about the caste system prevalent in India. The upper and the lower class Brahmins and Sudras. ➢ The students understood the hegemony of Brahmanical Virtual Systems and traditions. ➢ The students also learnt about the effects at partition in Punjab and portrays the bloody chapters of The territorial division of India.

Papani Kakati

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Gossaigaon College

COURSE OUTCOME

Gossaigaon College, Gossaigaon

Subject : Economics (Hon)
Semester : I
Paper Title : Introductory Microeconomics
Paper Code : C-1

Units	Name of the topic	Course Outcomes
I	**Introduction:** Basic concepts- dependent and independent variables- exogenous and endogenous variable - The Economic Problem- Scarcity and Choice; Concepts of Equilibrium - Stable and Unstable, Static, Comparative Static, Dynamic, The Basic Market Model	▪ Students are able to understand different concept of variables. ▪ Students acquire knowledge on economic problem, scarcity and choice, etc ▪ Able to understand equilibrium, different concept of equilibrium and basic market model
II	**Consumer Behaviour and Demand**: Utility: Cardinal versus Ordinal; Indifference Curve - Assumptions and Properties; optimal choice Consumer's Equilibrium; Price Effect-Income Effect, Substitution Effect; Engel's Curve; Derivation of the Demand Curve; Giffen Paradox; Merits and Limitations of Indifference Curve Analysis; Consumer's Surplus and Applications and Limitations of the Concept.	▪ Students are able to know cardinal vs ordinal utility analysis ▪ Able to understand about indifference curve, properties, and consumer equilibrium, ▪ Will acquire knowledge on price effect, income effect, substitution effect, derivation of demand curve, etc. ▪ Students can understand about merits and limitation of indifference curve analysis and consumer surplus.
III	**Theory of Production and Costs**: Organization of Production; Production Function and its related concepts; Total, Average and Marginal Products and the Law of Variable Proportions; Production with two variable inputsIsoquant; Factor Elasticity of Substitution; Returns to Scale; Least cost input combination; Expansion Path; Contract Curve and the derivation of Production Possibility Curve; Cost of Production; Types of Costs- Money Cost, Real Cost, Explicit Cost, Implicit Cost, Sunk Cost, Opportunity Cost, Private Cost, Social Cost.	▪ Students can understand about production function and its related concepts, law of variable proportions, iso-quant and its properties and elasticity of substitution. ▪ Able to learn about returns to scale, producer's equilibrium, contract curve and derivation of production possibility curve. ▪ Acquire knowledge upon cost of production and its different types like money cost, real cost, explicit cost, etc.
IV	**Output Decision and Profit Maximization**: (Revenue: TR, AR, MR; Relation between AR, MR, Elasticity of Demand; Comparing Costs and Revenues to maximize Profit)	▪ Students are able to learn about different concept of revenue and their relationship, elasticity of demand and profit maximization.

Subject : Economics (Hon)
Semester : I
Paper Title : Introductory Macroeconomics
Paper Code : C-2

Units	Name of the topic	Course Outcomes
I	**Macroeconomics and National Income Accounting**: Basic issues studied in Macroeconomics; Definitions of related aggregates of National Income; Methods of estimating National Income; real versus nominal GDP; Circular flow in a two sector economy; GNP as a measure of Economic Welfare and Quality of Life.	▪ Students can understand basic concept of Macroeconomics, national income accounting and issues studied in Macroeconomics. ▪ Students can acquire knowledge on national income and its related concepts like GNP, GDP, NNP, NGDP, etc ▪ Able to understand different methods of calculation of national income, circular flow of income, GNP as a measure of economic welfare and quality of life.

II	**The Classical System**: Classical Theory and Say's Law of Market; Classicalists Quantity Theory of Money; The Classical Full Employment Model. Keynes' objections to classical theory, Simple Keynesian model of Income Determination Unit	▪ Students can acquire knowledge on Say's law of market, Classical Theory of Income and employment determination and Classicalists Quantity Theory of Money. ▪ Students can understand about Keynes' objection to Classical theory and simple Keynesian model of income determination.
III	**The Simple Keynesian Model in a Closed Economy:** Keyne's Effective Demand; Keynesian Consumption Function; Technical Attributes of Consumption function; Simple Keynesian model of Income determination.	▪ Students are able to learn about aggregate demand and aggregate supply and determination of effective demand. ▪ Able to know consumption function and related concepts, Keynesian consumption function and technical attributes of consumption function.
IV	**Liquidity Preference Liquidity**: Preference; Classicalist's view on the Demand for Money; Keynes' Motive of the Demand for Money; Liquidity Trap situation	▪ Students learn about preference, Classicalists views on the demand for money, Keynes' motive of demand for money and Liquidity trap situation

Subject : Economics (GE)
Semester : I
Paper Title : Principal of Microeconomics-I
Paper Code : GE

Units	Name of the topic	Course Outcomes
I	**Introduction**: Basic concepts- dependent and independent variables- exogenous and endogenous variable - The Economic Problem- Scarcity and Choice; Concepts of Equilibrium - Stable and Unstable, Static, Comparative Static, Dynamic, The Basic Market Model..Unit	▪ Students are able to understand basic concept of variables such as dependent, independent, exogenous, etc ▪ Students can acquire knowledge on economic problem, scarcity and choice, etc ▪ Able to understand concept of equilibrium, different concept of equilibrium and basic market model
II	Consumer Behaviour and Demand: Utility: Cardinal versus Ordinal; Indifference Curve - Assumptions and Properties; optimal choice Consumer's Equilibrium; Price Effect-Income Effect, Substitution Effect; Engel's Curve; Derivation of the Demand Curve; Giffen Paradox; Merits and Limitations of Indifference Curve Analysis; Consumer's Surplus and Applications and Limitations of the Concept	▪ Students are able to know utility, cardinal vs ordinal utility analysis, indifference curve, properties, and consumer equilibrium, ▪ Can acquire knowledge on price effect, income effect, substitution effect, derivation of demand curve, etc ▪ Students can understand merits and limitation of indifference curve analysis and consumer surplus.
III	**Theory of Production and Cost**: Organization of Production; Production Function and its related concepts; Total, Average and Marginal Products and the Law of Variable Proportions; Production with two variable inputs, Isoquant; Factor Elasticity of Substitution; Returns to Scale; Least cost input combination; Expansion Path; Contract Curve and the derivation of Production Possibility Curve; Cost of Production; Types of Costs- Money Cost, Real Cost, Explicit Cost, Implicit Cost, Sunk Cost, Opportunity Cost, Average and Marginal Cost Curves.	▪ Students can understand about production function and its related concepts, law of variable proportions, isoquant and its properties and elasticity of substitution. ▪ Able to learn about returns to scale, producer's equilibrium, expansion path, contract curve and derivation of production possibility curve. ▪ Acquire knowledge upon cost of production and its different types like money cost, real cost, explicit cost, etc

Subject : Economics (Hon)
Semester : II
Paper Title : Intermediate Microeconomics-I
Paper Code : C-3

Units	Name of the topic	Course Outcomes
I	**Consumer Theory**: Preference; utility; budget constraint; choice; demand; Slutsky equation; buying and selling; choice under risk and intertemporal choice; revealed preference	▪ Students are able to understand consumer preference, utility, budget constraint, choice, demand and slutsky equation. ▪ Students can acquire knowledge on buying and selling, choice under risk and inter-temporal choice. ▪ Able to understand revealed preference theory of consumer behavior analysis.
II	**Production, Costs and Perfect Competition**: Technology; isoquants; production with one and more variable inputs; returns to scale; short run and long run costs; cost curves in the short run and long run; review of perfect competition.	▪ Students are able to know all about production function, isoquant, production with one and more variable inputs and returns to scale. ▪ Will be able to understand about costs of production and its related concepts, short-run and long-run costs and review of perfect competition.
III	**Determination of Factor Pricing**: Pricing of Factors under Perfect Competition–Factor Share and Technical Progress- Backward Bending Supply Curve of Labour–Monopsony. Principal agent problem-Monopoly & Competitive solution. Hidden action & hidden information and monopoly solution. Signaling	▪ Students can understand about pricing of factors under perfect competition, factor share and technical progress. ▪ Able to learn about backward bending supply curve of labour, monopsony, principal agent problem-monopoly and competitive solution. ▪ Will be able to learn about hidden action and hidden information and monopoly solution and signaling.

Subject : Economics (Hon)
Semester : II
Paper Title : Mathematical Methods in Economics-I
Paper Code : C-4

Units	Name of the topic	Course Outcomes
I	**Preliminaries**: Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems,	▪ Students can learn logic and proof techniques used in mathematics. ▪ Students will learn about the basic concept of sets and set operations. ▪ Able to understand relation, functions, properties and number system.
II	**Single-variable optimization**: Geometric properties of functions: convex functions, their characterizations and applications; local and global optima: geometric characterizations, characterizations using calculus and applications.	▪ Able to understand geometric properties of functions, characterizations and applications. ▪ Will acquire knowledge on local and global optima, geometric characterization using calculus and applications.
III	**Functions of one real variable**: Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications;	▪ Students are able to learn graphs, types of function such as quadratic, polynomial, power, etc and algebraic properties and application.

	continuous functions: characterizations, properties with respect to various operations and applications; differentiable functions: characterizations, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.	▪ Will be able to understand about continuous functions, characterizations, properties and applications. ▪ Can learn different rules of differentiations, second and higher order derivatives and their economic applications.
IV	**Integration of functions**	▪ Students will learn about basic rules of integration. ▪ Able to learn how to derive total function from the given marginal functions such as derivation of total cost, total revenue, ▪ Will also be able to learn the derivation of consumer's and producer's surplus using integration.
V	**Difference equations**:	▪ Students are able to solve basic problem of difference equations and its application in Economics.

Subject : Economics (GE)
Semester : II
Paper Title : Principal of Macroeconomics-I
Paper Code : GE-2

Units	Name of the topic	Course Outcomes
I	**Macroeconomics and National Income Accounting:** Basic issues studied in Macroeconomics; Definitions of related aggregates of National Income; Methods of estimating National Income; real versus nominal GDP; Circular flow in a two-sector economy; GNP as a measure of Economic Welfare and Quality of Life.	▪ Students can learn basic concept of macroeconomics, issues studied in Macroeconomics, national income and its related concepts. ▪ Able to understand different methods of estimation of national income and circular flow of income in two sector model. ▪ Able to capture the idea regarding inter-relation between GNP and economic welfare and quality of life.
II	**The Classical System**: Classical Theory and Say's Law of Market; Classicalists Quantity Theory of Money; The Classical Full Employment Model. Keynes' objections to classical theory, Simple Keynesian model of Income Determination	▪ Able to understand Say's Law of Market, Classical theory of income and employment determination and Classicalists theory of money. ▪ Can understand Keyne's objection to classical theory, and simple Keynesian model of income determination.
III	**The Simple Keynesian Model in a Closed Economy**: Keyne's Effective Demand; Keynesian Consumption Function; Technical Attributes of Consumption function; Simple Keynesian model of Income determination.	▪ Students are able to aggregate demand, aggregate supply and determination of effective demand. ▪ Able to know the basic concept of consumption function, its related concepts and technical attributes of consumption function.

Subject : Economics (Hon)
Semester : III
Paper Title : Intermediate Macroeconomics-I
Paper Code : C-5

Units	Name of the topic	Course Outcomes
I	**Aggregate Demand and Aggregate Supply Curves:** Derivation of aggregate demand and aggregate and supply curves; interaction of aggregate demand and supply.	▪ Students learn about aggregate demand and aggregate supply curves, their derivations ▪ Able to understand how interaction of aggregate demand and aggregate supply curves determines equilibrium output and price.
II	**Inflation, Unemployment and Expectations:** Phillips curve; adaptive and rational expectations; policy ineffectiveness debate	▪ Able to understand the concept of inflation, different types of inflation and impact of inflation. ▪ Can understand how Phillips curve shows the relation between inflation and unemployment rate, reasons for shift of Phillips curve. ▪ Students can acquire the knowledge of adaptive and rational expectation and their policy effectiveness debate.
III	**Open Economy Models:** Short-run open economy models; Mundell-Fleming model; exchange rate determination purchasing power parity; asset market approach; Dornbusch's overshooting model; monetary approach to balance of payments; international financial markets	▪ Will learn about open economy and Mlundell-Fleming Model. ▪ Students can understand about exchange rate, its different types and determination of exchange rate. ▪ Students can also learn purchasing power parity theory, Dornbusch's overshooting model, and internal financial markets.

Subject : Economics (Hon)
Semester : III
Paper Title : Mathematical Methods in Economics-II
Paper Code : C-6

Units	Name of the topic	Course Outcomes
I	**Differential equations:**	▪ Students learn about concept of differential equations, types of differential equations and their solutions. ▪ Able to learn how differential equations are applied in finding stability of market and for solving Harrod-Domar growth model.
II	**Linear algebra:** Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.	▪ Students are able to understand the concept of vector, types of vector, matrices, types of matrices, operations and determinant and its properties. ▪ Can understand how vector, matrix, determinant, Cramer's rule and matrix inverse method are used in economics for finding equilibrium level of national income, consumption, prime and quantity.

	Functions of several real variables: Geometric representations: graphs and level curves; differentiable functions: characterizations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterizations and applications.	▪ Students can understand graph and level curves, differentiable functions, characterization, properties with respect to various operations and applications. ▪ Students will learn second order derivatives, implicit function theorem, properties and applications. ▪ Will also learn about homogeneous and homothetic functions.
	Multi-variable optimization: Convex sets; geometric properties of functions: convex functions, their characterizations, properties and applications; further geometric properties of functions: quasi-convex functions, their characterizations, properties and applications; unconstrained optimization: geometric characterizations, characterizations using calculus and applications; constrained optimization with equality constraints: geometric characterizations, Lagrange characterization using calculus and applications; properties of value function: envelope theorem and applications	▪ Students are able to understand geometric properties of function, convex functions and their characterizations, properties and applications. ▪ Students will also learn unconstraint optimization using calculus and application. ▪ Will also learn constraint optimization with equality constraints, Lagrange's function and application, and envelope theorem and applications.

Subject : Economics (Hon)
Semester : III
Paper Title : Statistical Methods of Economics
Paper Code : C-7

Units	Name of the topic	Course Outcomes
I	**Introduction and Overview**: The distinction between populations and samples and between population parameters and sample statistics; the use of measures of location and variation to describe and summarize data;	▪ Students can learn about sample, population, their difference, population parameters and sample statistics ▪ Able to understand the use of measures of location and variation to describe and summarize data.
II	**Elementary Probability Theory:** Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence.	▪ Students are able to learn different concept related to probability theory such as sample spaces and events, probability axioms and properties. ▪ Can understand counting techniques, conditional probability, Bayes' rule and independence.
III	**Random Variables and Probability Distributions**: Defining random variables; probability distributions; expected values of random variables and of functions of random variables; properties of commonly used discrete and continuous distributions (uniform, binomial, normal, poisson and exponential random variables).	▪ Students can understand about random variables, probability distributions, expected value of random variables. ▪ Students will also learn about binomial, normal, poisson distributions with their properties, .
IV	**Random Sampling and Jointly Distributed Random Variables**: Density and distribution functions for jointly distributed random variables; computing expected values; covariance and correlation coefficients	▪ Students are able to understand density and distribution functions for jointly distributed random variables and computing expected values. ▪ Students will also learn about covariance and correlation coefficients.

V	**Sampling**: Principal steps in a sample survey; methods of sampling; the role of sampling theory; properties of random samples	▪ Students will be able understand the principal steps in a sample survey and methods of sampling. ▪ Able to understand role of sampling theory and properties of random samples.
VI	**Point and Interval Estimation**: Estimation of population parameters using methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals for population parameter	▪ Able to understand estimation of population parameters using methods of moments and maximum likelihood procedure. ▪ Will also learn about properties of estimators and confidence interval for population parameters.

Subject : Economics (Hon)
Semester : III
Paper Title : Data Analysis
Paper Code : SEC-1

Units	Name of the topic	Course Outcomes
I	**Collection of Data**: Secondary data and primary data, different sources of secondary data, different methods of primary data collection, preparation of questionnaire and schedule.	▪ Students can learn regarding the source of data collection, types of data and different methods of primary data collection. ▪ Will be able to understand how to prepare questionnaire and schedule.
II	**Measure of central tendency:** -mean, median, mode; measure of dispersion-range, quartile deviation, standard deviation, measurement of growth rate.	▪ Students are able to learn different measures of central tendency such as mean, median and mode. ▪ Also able to learn measure of dispersion like quartile deviation, standard deviation and measurement of growth.
III	Correlation, Coefficient of Correlation, Rank correlation, Regression analysis.	▪ Students can learn about correlation, coefficient of correlation and rank correlation. ▪ Students will also learn about regression analysis.
IV	Data entry and analysis in SPSS and Excel; diagrammatic presentation.	▪ Students will also learn how to enter data and analysis data in SPSS and Excel ▪ Will also have idea on diagrammatic presentation in SPSS and Excel.

Subject : Economics (GE)
Semester : III
Paper Title : Development Economics
Paper Code : GE-3

Units	Name of the topic	Course Outcomes
I	**Economic Growth and Development**: Concept. Indicators of Economic Development	▪ Students are able to learn about the concept of economic growth and economic development and their differences. ▪ Will be able to understand various indicators of economic development.

II	**Vicious circle of poverty:** Lewis theory of unlimited supplies of labour-Theory of Big Push, Theories of Balanced and Unbalanced Growth	▪ Students are able to understand very important theory of Lewis theory of unlimited supply of labour and big-push theory. ▪ Also, able to learn theories of balanced and unbalanced growth.
III	**External resources:**Foreign AID-types of Foreign AID, importance of foreign AID-Its danger, FDI-meaning-advantages-disadvantages	▪ Students can learn about external resources such as foreign aid, types of foreign aid, importance and danger of foreign aid. ▪ Students will also learn FDI and its advantages and disadvantages.
IV	Rostow's stages of economic growth and Harrod-Domar growth model	▪ Students will learn Rostow's stages of economic growth and Harrod- Domar growth model.

Subject : Economics (Hon)
Semester : IV
Paper Title : Intermediate Microeconomics-II
Paper : C-8

Units	Name of the topic	Course Outcomes
I	**General Equilibrium, Efficiency and Welfare:** Equilibrium and efficiency under pure exchange and production; overall efficiency and welfare economics.	▪ Students are able to learn about general equilibrium, efficiency and welfare. ▪ Will be able to understand equilibrium and efficiency under pure exchange and production and welfare economics.
II	**Market Structure and Game Theory**: Monopoly; pricing with market power; price discrimination; peak-load pricing; two-part tariff; monopolistic competition and oligopoly; game theory and competitive strategy.	▪ Students are able to understand about pricing under monopoly market, price discrimination, peak load pricing and two part tariff. ▪ Also able to learn monopolistic and oligopoly market, game theory and competitive strategies.
III	**Market Failure:** Externalities; public goods and markets with asymmetric information	▪ Students can learn about externalities and public goods. ▪ Students will also market with asymmetric information.

Subject : Economics (Hon)
Semester : IV
Paper Title : Intermediate Macroeconomics-II
Paper : C-9

Units	Name of the topic	Course Outcomes
I	**Economic Growth:** Harrod-Domar model; Solow model; golden rule; technological progress and elements of endogenous growth	▪ Students are able to learn Harrod-Domar model, Solow model and golden rule. ▪ Will be able to understand technological progress and elements of endogenous growth.

II	**Microeconomic Foundations**: a. Consumption: Keynesian consumption function; Fisher 's theory of optimal inter-temporal choice; life-cycle and permanent income hypotheses; rational expectations and random-walk of consumption expenditure. b. Investment: determinants of business fixed investment; residential investment and inventory investment. c. Demand for money	▪ Students are able to understand about consumption function, Fisher's theory of inter-temporal choice. ▪ Also, able to learn about life-cycle and permanent income hypotheses, rational expectations and random-walk of consumption expenditure. ▪ Also acquire knowledge on investment, types of investment and demand for money.
III	**Fiscal and Monetary Policy:** Active or passive; monetary policy objectives and targets; rules versus discretion: time consistency; the government budget constraint; government debt and Ricardian equivalence.	▪ Students can learn about monetary policy and its objectives and target. ▪ Students will also learn about govt. budget constraint, govt. debt and Ricardian equivalence.
IV	**Schools of Macroeconomic Thoughts**: Classical; Keynesians; New-Classical and New-Keynesian	▪ Will be understanding about school of Macroeconomics thought of classical, Keynesian, new-classical and new – Keynesian.

Subject : Economics (Hon)
Semester : IV
Paper Title : Introductory Econometrics
Paper : C-10

Units	Name of the topic	Course Outcomes
I	Nature and Scope of Econometrics	▪ Students are able to understand concept of econometrics and its nature and scope.
II	**Statistical Concepts**: Normal distribution; chi-sq, t- and F-distributions; estimation of parameters; properties of estimators; testing of hypotheses: defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples.	▪ Students are able to understand about normal distribution, chi-square, t-test and F-test, estimator of parameters and properties of estimators. ▪ Also able to learn testing of hypothesis, type-I and Type-II errors, power of a test, etc.
III	Simple Linear Regression Model: Two Variable Case: Estimation of model by method of ordinary least squares; properties of estimators; goodness of fit; tests of hypotheses; scaling and units of measurement; confidence intervals; Gauss-Markov theorem; forecasting.	▪ Students can learn simple linear regression model, estimation of parameter using least square method, properties of estimators, and goodness of fit. ▪ Students will also learn about testing of hypothesis, scaling and units of measurement, confidence interval, and forecasting and Gauss-Markov theorem.
IV	Multiple Linear Regression Model Estimation of parameters; properties of OLS estimators; goodness of fit - R2 and adjusted R2; partial regression coefficients; testing hypotheses – individual and joint; functional forms of regression models; qualitative (dummy) independent variables	▪ Will be understanding about multiple linear regression model, properties of OLS, goodness of fit, R-2 and adjusted R2, testing of hypotheses, etc

Subject : Economics (Hon)
Semester : IV
Paper Title : Field Study and its importance
Paper : SEC-2

Units	Name of the topic	Course Outcomes
I	Importance of field Study, selection of topic, objectives, review of literature of the relevant topic and research ethics..	▪ Students are able to learn basic ideas of research work like selection of topic, objectives, review of literature of the relevant topic and research ethics. .
II	Data collection, field survey, pilot survey, complete enumeration (census) and sample survey, preparation of questionnaire, schedule, etc	▪ Students are able to understand how to collect primary data, conduct field survey, pilot survey, sample survey, and complete enumeration. ▪ Also, able to learn preparation of questionnaire, schedule, etc
III	Report writing, References and Bibliography	▪ Students can learn how to prepare report writing, references and bibliography. .

Subject : Economics (GE)
Semester : IV
Paper Title : International Economics
Paper : SEC-4

Units	Name of the topic	Course Outcomes
I	**Introduction:** What is international economics about? An overview of world trade.	▪ Students are able to learn what international economics studies about and its nature and scope.
II	**Theories of International Trade**: The Ricardian, specific factors, and Heckscher-Ohlin models; new trade theories; the international location of production; firms in the global economy — outsourcing and multinational enterprises.	▪ Students are able learn Ricardian, Heckscher-Ohlin and new theories of international trade. ▪ Also, able to learn about firms in the global economy-outsourcing and multinational enterprised.
III	**Trade Policy:** Instruments of trade policy; political economy of trade policy; controversies in trade policy.	▪ Students can learn about instrument of trade policy and controversies in trade policy. .
IV	**International Macroeconomic Policy**: Fixed versus flexible exchange rates; international monetary systems; financial globalization and financial crises	▪ Able to learn about exchange rate, fixed and flexible exchange rates, international monetary system, and financial globalization.

Subject : Economics (Hon)
Semester : V
Paper Title : Indian Economy-I
Paper : CC-11

Units	Name of the topic	course outcome
1	**Economic development since Independence: Major features of the economy at independence; growth & development under different policy regimes- goals, constraints, institutions & policy framework; an assessment of performance- substitutability and regional contrasts; structure change, savings & investment.**	1. Students are able to understand the Indian economic scenario during the independence period. 2. Students are able to get knowledge about the different government policies for economic development. 3. The students are able to know about the different constraints for development.
2	**Population and Human Development: Demographic** trends and issues; education; health and malnutrition	1. Students are able to know the different issues of population explosion. 2. Students are able to understand how education helps in birth control. 3. Students are able to understand about the health and malnutrition issues.
3	**Growth and Distribution**: Trends and policies in poverty; inequality and unemployment.	1. The students are able to understand about the different poverty alleviation program and policies. 2. Students are able to know how unemployment becomes constraint in the path of economic development of a country.
4	International Comparison	Students are able to understand the relation of India with all the other neighboring countries and also with other developed countries and also get to know about how one country's trade and business depends upon other country.

Subject : Economics (Hon)
Semester : V
Paper Title : Development Economics-I
Paper : CC-12

Unit	Name of the topic	Course Outcome
1	**Economic Growth and Development**: Economic growth and development: concept. Indicators of Economic Development	1. The students are able to understand the difference between Growth and Development. 2. The students are able to understand the different indicators of economic development.
2	**Capital- meaning- characters and role.** Labour – meaning- characters and Technology In Economic Development.	1. The students are able to understand the meaning off all the four factors of production. 2. The students are able to understand the role of capital labour and technology in economicdevelopment of a country.

3	**Population, population explosion, Human Capital and its formation and Economic Development.**	1. The students are able to understand about the population composition. 2. The students are able to Understand how human capital helps in economic development.
4	**Theories of Growth and Development:** Vicious circle of poverty- Lewis theory of unlimited supplies of labor –Theory of Big Push, Theories of Balanced and Unbalanced growth	1. The students are able to understand about the vicious circle of poverty. 2. The students are able to understand the different theories of growth and development.

Subject : Economics (DSE)
Semester : V
Paper Title : Public Finance
Paper : DSE-1

Units	Name of the topic	Course Outcome
1	**Public Economic Theory:a)**Fiscal functions: an overview. b) Public goods: definition, models of efficient allocation, pure and impure public goods, free riding. c)Externalities: the problem and its solutions, taxes versus regulation, property rights, the Coase theorem d)Taxation: its economic effects; dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation	1. The students are able to understand the characteristics of public goods. 2. The students are able to understand the problems associated with public goods. 3. The students are able to understand the effects and incidents of taxation. 4. They are able to know about the different types of externalities.
2	**Indian Public Finances :** a) Tax system: structure and reforms, budgets, deficits and public debt b) Fiscal federalism in India	1. The students are able to understand the different types of tax system prevailing in India. 2. They are able to know about the reforms in the Indian tax system. 3. The students are able to understand about the government budget and its components. 4. They are able to know about the budget deficit and public debts. 5. They are able to know about the meaning of fiscal federalism.

Subject : Economics (DSE)
Semester : V
Paper Title : Money and Financial Market
Paper : DSE-2

Units	Name of the topic	Course Outcome
1	**Money:** Concept, functions, measurements; theories of money supply determination	1. Students are able to understand the meaning, functions and measurements of money. 2. The students are able to understand different components of money. 3. The students are able to understand the different theories of money supply determination.
2	**Financial Institutions, Markets, Instruments and Financial Innovation:**a) Role of financial market and institutions; problem and asymmetric information-adverse selection and moral hazard; financial crisis. b) Money and capital market: organization , structure and reforms in India; role of financial derivatives and other innovations.	1. The students are able to understand about the meaning of financial system. 2. The students are able to understand about the role of different components of financial system. 3. The students are able to understand the meaning and problems of adverse selection and moral hazards. 4. The students are able to understand the role of money market and capital market. 5. They are able to know about the role financial derivatives.
3	**Interest Rates:**Determination; sources of interest rate differential ; theories of term structure of interest rates; interest rates in India	1. The students are able to understand about the sources of interest rate differentials. 2. The students are able to understand Theories of term structure of interest rates. 3. The students are able to understand the different types of interest rates prevailing in India.
4	**Banking System:** a) Balance sheet and portfolio management. b) Indian banking system: Changing role and structure; banking sector reforms	1. The students are able to understand the meaning of portfolio management. 2. The students are able to understandabout the balance sheet. 3. The students are able to understand about the role of banking system in India. 4. The students are able to understand the reforms in banking system.
5	**Central banking and Monetary policy:** Functions, balance sheet; goals, targets, indicators & instruments of monetary control; monetary management in an open economy; current monetary policy in India	1. The students are able to understand the functions The students are able to understand the functions of central bank. 2. The students are able to understand the instruments of monetary policy. 3. The students are able to understand about the current monetary policy of India.

Subject : Economics (Regular)
Semester : V
Paper Title : Principle of Microeconomics-I
Paper : GE-I

Units	Name of the topic	Course Outcome
1	**Introduction:** Basic concepts- dependent and independent variables- exogenous and endogenous variable - The Economic Problem- Scarcity and Choice; Concepts of Equilibrium - Stable and Unstable, Static, Comparative Static, Dynamic, The Basic Market Model	1. The students are able to understand about the different types of variables. 2. The students are able to understand the central problems of economy. 3. The students are able to understand the different types of equilibrium. 4. The students are able to understand the market model.
2	**Consumer Behaviour and Demand:** Utility: Cardinal versus Ordinal; Indifference Curve - Assumptions and Properties; optimal choice Consumer's Equilibrium; Price Effect-Income Effect, Substitution Effect; Engel's Curve; Derivation of the Demand Curve; Giffen Paradox; Merits and Limitations of Indifference Curve Analysis; Consumer's Surplus and Applications and Limitations of the Concept.	1. The students are able to understand the concept of utility and demand. 2. The students are able to understand the meaning and properties of indifference curve. 3. The students are able to understand about the consumer surplus and its economic application.
3	**Theory Of Production and Cost:** : Organisation of Production; Production Function and its related concepts; Total, Average and Marginal Products and the Law of Variable Proportions; Production with two variable inputsIsoquant; Factor Elasticity of Substitution; Returns to Scale; Least cost input combination; Expansion Path; Contract Curve and the derivation of Production Possibility Curve; Cost of Production; Types of Costs- Money Cost, Real Cost, Explicit Cost, Implicit Cost, Sunk Cost, Opportunity Cost, Private Cost, Social Cost,Average and marginal cost curves.	1. The students are able to understand about the production function, total product, average product marginal product. 2. The students are able to understand different types of cots. 3. The students are able to understand the isoquant and factor elasticity.

Subject : Economics (Regular)
Semester : V
Paper Title : Indian Economy
Paper : DSE-1(A)

Units	Name of the topic	Course Outline
1	**Economic Development since Independence: Major features of the economy at independence-growth and development under different policy regimes-goals, constraints, institutions and policy framework.**	1. The students are able to understand the major features of the economy at Independence. 2. The students are able to understand the different policy, goals and targets of economic development.

2	**Population and Economic Development: Population- birth rate -death rate -sex composition -causes of population growth - migration -causes of f migration in and out- impact on economic development, fertility - mortality -occupational distribution -Literacy trends and policies.**	1. The students are able to understand the causes of population growth. 2. The students are able to understand the causes of migration. 3. The students are able to understand the impact of migration on economic development.
3	**Policies and Performance in Agriculture: Growth; productivity; agrarian structure and technology; capital formation; trade pricing and procurement.**	1. The students are able to understand the policies that help in increasing the productivity of agriculture. 2. The students are able to understand the different technologies that help in increasing agricultural productivity. 3. The students are able to understand the meaning of capital formation trade and procurement.
4	**Policies and Performance in Industry: Growth ; productivity; diversification ; small scale industries ; public sector ; foreign investment.**	1. The students are able to understand the importance of small-scale industries. 2. The students are able to understand the role of public sector enterprise. 3. The students are able to understand the foreign investment.

Subject : Economics (Hon)
Semester : VI
Paper Title : Indian Economy-II
Paper : CC- 13

Units	Name of the topic	Course Outcome
1	Macroeconomic policies and Their Impact: Fiscal Policy; trade and investment policy; financial and monetary policies; labour regulation	1. The students are able to understand about the fiscal policy. 2. They are able to know about the financial and monetary policies. 3. The students are able to understand about the labour regulation
2	Policies and performance in agriculture: Growth; productivity; agrarian structure and technology; capital formation; trade; pricing and procurement	1. The students are able to understand the growth and productivity of the agriculture. 2. They are able to know about the agrarian structure and technology. 3. The students are able to understand meaning of capital formation, pricing procurement.

3	Policies and performance in Industry: Growth; productivity; diversification; small scale industries; public sector; competition policy; foreign investment.	1. The students are able to understand the growth and productivity of the industries. 2. They are able to know about the role and importance of small-scale industries. 3. The students are able to understand the public sector industries and foreign investment.
4	Trends and performance in services	1. The students are able to understand the performance of the service sector and their growth in India.

Subject : Economics (Hon)
Semester : VI
Paper Title : Development Economics -II
Paper : CC- 14

Units	Name of the topic	Course Outcome
1	Introduction to planning: types of planning, rationale/objectives of economic planning in a developing economy, planning process.	1. Students will be able to acquire knowledge about different types of planning adopted by the government. 2. Students will be able to acquire knowledge about how different types of developmental activities can be done through planning. 3. Students will be able to know about the different objectives of planning through which the developing economy can grow.
2	External resources-Foreign AID-types of Foreign AID, importance of foreign AID-Its danger, FDI-meaning-advantages-disadvantages.	1. Students will be able to acquire knowledge about the meaning and types of foreign AID. 2. Students will be able to acquire knowledge about the importance of foreign AID and its danger. 3. Students will be able to acquire knowledge about FDI and how it is advantageous to the economic development of a country. 4. Students will be able to acquire knowledge about the disadvantages of FDI for an economy.
3	Rostow's stages of economic growth and Harrod-Domar growth model	1. Students will be able to know about the different stages of growth of an economy through Rostow's stages of growth model. 2. Students will be able to know about different types of rates of growth of an economy. 3. Students will be able to know about the golden rule of capital accumulation.
4	Concept and Measurement of human Development –Human development Index (HDI) for various states in India	1. Students will be able to know about the meaning of Human Development Index. 2. Students will be able to know about the importance and applications of HDI. 3. Students will be able to know about the HDI ranking of various states of the country.

Subject : Economics (Hon)
Semester : VI
Paper Title : International Economics
Paper : DSE- 3

Units	Name of the topic	Course Outcome
1	Introduction: What is international economics about? An overview of world trade.	1. Students will be able to know about the international economics and its importance for an economy to develop. 2. Students will be able to know about the importance of trade between the countries. 3. Students will be able to know about the world trade and business and how the economy of one nation is interlinked with the other.
2	Theories of international trade: The Ricardian, specific factors, and Heckscher-Ohlin models; new trade theories; the international location of production; firms in the global economy — outsourcing and multinational enterprises.	1. Students will be able to know about the meaning of factor abundant, factor intensities and input output ratio. 2. Students will be able to know about how the factors of production and their availability helps in increasing the trade and business. 3. Students will be able to know about different theories of international trade and their applications in real world.
3	Trade policy: Instruments of trade policy; political economy of trade policy; controversies in trade policy.	1. Students will be able to know about different instruments of trade policy which helps in improving the trade of an economy. 2. Students will be able to know about the controversies of trade policy. 3. Students will be able to know about the political instruments of trade policy.
4	International Macroeconomic policy: Fixed versus flexible exchange rates; international monetary systems; financial globalization and financial crises.	1. Students will be able to know about the meaning and types of exchange rate. 2. Students will be able to know about the difference between fixed and flexible exchange rates. 3. Students will be able to know about the financial globalization and financial crises.

Subject : Economics (Hon)
Semester : VI
Paper Title : Environmental Economics
Paper : DSE- 4

Units	Name of the topic	Course Outcome
1	Introduction: What is environmental economics; review of microeconomics and welfare economics.	1. Students will be able to know about the meaning of environmental economics and its objectives. 2. Students will be able to know about the relationship of environment with economics and ecology. 3. Students will be able to know about the welfare economics and its implications.
2	The theory of externalities: Pareto optimality and market failure in the presence of externalities; property rights and the coase theorem	1. Students will be able to know about the different types of externalities and their impacts. 2. Students will be able to know how to correct the problem of externalities. 3. Students will be able to know about the causes and consequences of market failure. 4. Students will be able to know about property rights and Coase theorem.

3	The design and implementation of environmental policy: Overview; pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy	1. Students will be able to know about Pigouvian taxes and its economic implication. 2. Students will be able to know about the difference between taxes and quotas. 3. Students will be able to know about how to implement the tax policies.
4	International Environmental Problems: Trans-boundary environmental problems; economics of climate change; trade and environment	1. Students will be able to know about the international environmental issues. 2. Students will be able to know aboutthe impact of climate change on environment and economy. 3. Students will be able to know about the relationship of environment and trade.
5	Measuring the benefits of environmental improvements: non-Market values and measurement methods; risk assessment and perception	1. Students will be able to know about the valuation of benefits of non-market values. 2. Students will be able to know about different types of methods for valuation of non-market values. 3. Students will be able to know about the risk assessment and perception.
6	Sustainable development: Concepts; component, measurement	1. Students will be able to know about the meaning and concept of sustainable development. 2. Students will be able to know about different components of Sustainable development. 3. Students will be able to know about the methods of measuring sustainable development. 4. Students will be able to know about the importance of sustainable development.

Subject : Economics (Regular)
Semester : VI
Paper Title : Principle of Macroeconomics-I
Paper : GE- 2

Units	Name of the topic	Course Outcome
1	**Macroeconomics and national income accounting**: Basic issues studied in Macroeconomics; Definitions of related aggregates of National Income; Methods of estimating National Income; real versus nominal GDP; Circular flow in a two-sector economy; GNP as a measure of Economic Welfare and Quality of Life	1. The students are able to understand the basic issues of macroeconomics. 2. They are able to know about the various methods of measuring national income. 3. The students are able to understand about the measures of economic welfare. 4. They are able to know about the different aggregates of national income.
2	**The Classical System**: Classical Theory and Say's Law of Market; Classicalists Quantity Theory of Money; The Classical Full Employment Model. Keynes' objections to classical theory, Simple	4. The students are able to understand the classical theory and say's law of market. 5. They are able to know about the classical employment model.

	Keynesian model of Income Determination Unit	6. The students are able to understand about Keynesian objection to classical theory. 7. They are able to know about the Keynesian model of income determination.
3	**The Simple Keynesian Model in a Closed Economy:** Keync's Effective Demand; Keynesian Consumption Function; Technical Attributes of Consumption function; Simple Keynesian model of Income determination.	1. The students are able to understand the concept of effective demand. 2. They are able to know about the Keynesian consumption function. 3. The students are able to understand different attributes of Keynesian consumption function.

Subject : Economics (Regular)
Semester :VI
Paper Title : Public Finance
Paper : DSE- 1(B)

Unit	Name of the Topic	Course Outcome
1	**Public Economic Theory:** Fiscal functions: an overview. b) public goods: definition, models of efficient allocation, pure and impure public goods, free riding. c)Externalities: the problem and its solutions, taxes versus regulation, property rights, the Coase theorem d)Taxation: its economic effects; dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation	5. The students are able to understand the characteristics of public goods. 6. The students are able to understand the problems associated with public goods. 7. The students are able to understand the effects and incidents of taxation. 8. They are able to know about the different types of externalities.
2	**Indian Public Finances**: a) Tax system: structure and reforms, budgets, deficits and public debt b) Fiscal federalism in India	8. The students are able to understand the different types of tax system prevailing in India. 9. They are able to know about the reforms in the Indian tax system. 10. The students are able to understand about the government budget and its components. 11. They are able to know about the budget deficit and public debts. 12. They are able to know about the meaning of fiscal federalism.

COURSE OUTCOME

Gossaigaon College, Gossaigaon
Subject: Physics (Honors)

Semester: I

Paper Title: Mathematical Physics-I
Paper Code: C-1

Paper	Name of the topic	Course Outcome
PHY-101H	Mathematical Physics-I	• Students are able to understand about Calculus and vector calculus. • Students are able to understand about orthogonal curvilinear coordinates. • Students are able to gain knowledge about probability. • Students have learned about Dirac delta function and its properties.

*Students also learn computer programming related to this topic.

Paper Title: Mechanics
Paper Code: C-2

Paper	Name of the topic	Course Outcome
PHY-102H	Mechanics	• The students are able to understand Fundamentals of Dynamics. • The students able to understand Work and Energy. • The students have learned about Collision. • The students able to understand about Rotational Dynamics. • The students able to understand about Elasticity • The students able to understand about Fluid Motion • The students able to understand about Gravitation and Central force motion • The students have learned about Oscillation • The students able to understand about Special theory of Relativity

*Students also learn lab practical related to this topic.

Semester: II

Paper Title: Electricity and Magnetism
Paper Code: C-3

Paper	Name of the topic	Course Outcome
PHY-201H	Electricity and magnetism	• Students are able to understand about Electric Field and Potential. • Students are able to understand about dielectric properties of matter. • Students are able to gain knowledge about magnetic field. • Students have learned about electromagnetic induction. • Students have learned about electrical circuits. • Students have learned about network theorem. • Students have learned about ballistic galvanometer.

*Students also learn lab practical related to this topic.

Paper Title: Electricity and Magnetism
Paper Code: C-4

Paper	Name of the topic	Course Outcome
PHY-201H	Waves and Optics	• Students are able to understand about superposition of collinear harmonic oscillations. • Students are able to understand about superposition of two perpendicular oscillations. • Students are able to gain knowledge about wave motion. • Students have learned about superposition of of two harmonic waves. • Students have learned about wave optics. • Students have learned about interference and diffraction. • Students have learned about Fraunhofer, Fresnel diffraction and holography.

*Students also learn lab practical related to this topic.

Semester: III

Paper Title: Mathematical Physics-II
Paper Code: C-5

Paper	Name of the topic	Course Outcome
PHY-301H	Mathematical Physics-II	• The students have learned in details about Fourier series and its application. • The students have learned in details about Frobenius Method and Special Functions. • The students have gained knowledge about some special integrals. • The students have learned about theory of errors. • The students have learned in details about partial differential equations.

*Students also learn computer programming related to this topic.

Paper Title: Thermal Physics
Paper Code: C-6

Paper	Name of the topic	Course Outcome
PHY-302H	Introduction to thermodynamics	• The students have learned in details about Zeroth Law, First Law and second of thermodynamics. • The students have learned in details about Entropy. • The students have learned about thermodynamic potentials. • The students have learned about Maxwell's Thermodynamic Relations. • The students have learned in details about partial differential equations.
	Kinetic Theory of Gases	• The students have learned in details about distribution of velocities. • The students have learned in details about molecular collisions. • The students have learned in details about real gases and their various properties.

*Students also learn lab practical related to this topic.

Paper Title: Digital Signal and Applications
Paper Code: C-7

Paper	Name of the topic	Course Outcome
PHY-303H	Digital Systems and Application	• The students have gained basic knowledge about CRO. • The students have learned in details about integrated circuits. • The students have gained knowledge about digital circuits. • The students have learned about Boolean algebra. • The students have learned in details about data processing circuit. • The students have learned about arithmetic circuits. • The students have learned about sequential circuits. • The students have learned about IC 555 timer. • The students have learned about shift registers and counters. • The students have learned about computer organization and intel 8085 microprocessor architecture. • The students have learned the basics of assembly language.

*Students also learn lab practical related to this topic.

Paper Title: Physical Workshop Skill
Paper Code: SEC-1

Paper	Name of the topic	Course Outcome
PHY-304HR	Physical Workshop Skill	• The students have learned in details about mechanical skill. • The students have learned in details about electrical and electronic skill. • The students have gained knowledge about prime movers.

*Students also learn lab practical related to this topic.

Semester: IV

Paper Title: Mathematical Physics-III
Paper Code: C-8

Paper	Name of the topic	Course Outcome
PHY-401H	Mathematical Physics - III	• The students have learned in details about complex analysis. • The students have learned in details about Fourier and Laplace transforms.

*Students also learn computer programming related to this topic.

Paper Title: Elements of modern physics
Paper Code: C-9

Paper	Name of the topic	Course Outcome
PHY-402H	Quantum Mechanics and Application	• The students have learned about basic quantum theory and radiation. • The students have learned about Schrodinger's equations and different parameters related to that. • The students have learned about quantum mechanical treatment of particle in a box. • The students have learned about radioactivity. • The students have learned about fission and fusion. • The students have learned about laser.

*Students also learn lab practical related to this topic.

Paper Title: Analog System and Application
Paper Code: C-10

Paper	Name of the topic	Course Outcome
PHY-403H	Analog System and Application	• The students have learned in details about Semiconductor diode and other two terminal devices and their applications. • The students have learned in details about bipolar junction transistors. • The students have gained knowledge about amplifier and coupled amplifier. • The students have learned in details about feedback in amplifiers and sinusoidal oscillators. • The students have learned in details about Operational Amplifier and its application. • The students have learned in details .

*Students also learn lab practical related to this topic.

Head of the Department of Physics

Paper Title: Renewable Energy and Energy Harvesting Skill

Paper Code: SEC-2

Paper	Name of the topic	Course Outcome
PHY-404HR	Renewable Energy and Energy Harvesting Skill	• The students have learned in details about Fossil fuels and Alternative Sources of energy. • The students have learned in details about solar energy. • The students have gained knowledge about wind energy harvesting. • The students have gained knowledge about ocean energy. • The students have gained knowledge about wind energy harvesting. • The students have gained knowledge about geothermal energy. • The students have gained knowledge about hydro energy. • The students have gained knowledge about piezoelectric and electromagnetic energy harvesting.

Semester: v

Paper Title: Quantum Mechanics and Application
Paper Code: C-11

Paper	Name of the topic	Course Outcome
PHY-501H	Quantum Mechanics and Application	• The students have learned in details about time independent Schrodinger equation. • The students have learned in details about time dependent Schrodinger equation. • The students have gained knowledge about bound states in an arbitrary potential. • The students have learned in details about Quantum theory of Hydrogen-like atom. • The students have learned in about atoms in external electric field and magnetic field. • The students have learned in details about many electron atoms.

*Students also learn computer programming related to this topic.

Paper Title: Solid State Physics
Paper Code: C-12

Paper	Name of the topic	Course Outcome
PHY-502H	Solid State Physics	• The students have learned in details about Crystal Structure. • The students have learned in details about the Elementary Lattice Dynamics. • The students have gained knowledge about Magnetic Properties of Materials. • The students have learned in details about Dielectric Properties of Materials. • The students have learned in about Ferroelectric properties of Materials. • The students have learned in details about Elementary Band Theory in Solids. • The students have learned in details about Superconductivity.

*Students also learn lab practical related to this topic.

Head of the
Department of Physics
Gossaigaon College

Gossaigaon College

Paper Title: Advance Mathematical Physics-I
Paper Code: DSE-1

Paper	Name of the topic	Course Outcome
PHY-503H	Advance Mathematical Physics-I	• The students have learned in details about Linear Vector Space. • The students have learned in details about the Matrices. • The students have gained knowledge about Cartesian Tensors. • The students have gained knowledge about General Tensors.

*Students also learn computer programming related to this topic.

Paper Title: Nuclear and Particle Physics
Paper Code: DSE-2

Paper	Name of the topic	Course Outcome
PHY-504H	Nuclear and Particle Physics	• The students have learned the General Properties of Nuclei. • The students have learned in details about Nuclear Models. • The students have gained knowledge about Radioactive Decay. • The students have gained knowledge about Nuclear Reactions. • Students have studied the interaction of Nuclear Radiations with matter. • The students have learned about Detectors for Nuclear Radiations. • The students have learned about particle accelerators. • The students have gained knowledge about particle physics.

Head of the
Department of Physics
Rossulgunj College

Paper Title: Electromagnetic Theory
Paper Code: C-13

Paper	Name of the topic	Course Outcome
PHY-601H	Electromagnetic Theory	• The students have learned in details about the Maxwell's equations. • The students have learned in details about Electromagnetic wave propagating in unbounded media. • The students have learned in details about Electromagnetic wave propagating in bounded media. • The students have learned in details about polarization of Electromagnetic waves. • The students have learned about wave guide and optical fiber.

*Students also learn lab practical related to this topic.

Paper Title: Statistical Mechanics
Paper Code: C-14

Paper	Name of the topic	Course Outcome
PHY-602H	Statistical Mechanics	• The students have learned in details about the Classical Statistics. • The students have learned in details about Classical Theory of Radiation. • The students have learned in details about Quantum Theory of Radiation. • The students have learned in details about Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac Statistics.

*Students also learn computer programming related to this topic.

Head of the
Department of Physics
Gossaigaon College

Paper Title: Classical Dynamics
Paper Code: DSE-3

Paper	Name of the topic	Course Outcome
PHY-603H	Classical Dynamics	• The students have learned in details about the Classical Mechanics of point particle. They have learned about Lagrangian and Hamiltonion for different systems. • The students have learned in details about Small amplitude oscillation. • The students have learned in details about Special Theory of relativity. • The students have learned in about fluid dynamics.

Paper Title: Experimental Techniques
Paper Code: DSE-4

Paper	Name of the topic	Course Outcome
PHY-604H	Experimental Techniques	• The students will learn about signals and systems. • The students will learn about transducer and industrial instrumentation. • The students will learn about digital multimeter, impedance bridges and Q-meter. • The students will learn different types of vacuum system and vacuum gauges.

*Students also learn lab practical related to this topic.

Head of the
Department of Physics
Willingdon College

Gossaigaon College
Subject: Botany (Honours)
Semester: I
Paper Title: Phycology and Microbiology
Paper Code: CC1 (BOT-101H)

Unit	Name of the Topic	Course Outcomes
1	Introduction to microbial world	➢ The students are able to understand Microbial nutrition, growth and metabolism. Economic importance of viruses with reference to vaccine production, role in research, medicine and diagnostics, as causal organisms of plant diseases. Economic importance of bacteria with reference to their role in agriculture and industry.
2	Viruses	➢ The students are able to understand Discovery, physiochemical and biological characteristics; classification (Baltimore), general structure with special reference to viroids and prions; replication(general account), DNA virus(T-phage) lytic and lysogenic cycle; RNA Virus(TMV)
3	Bacteria	➢ The students are able to know and learn about Discovery, general characteristics, Cell structure and types of Bacteria,Nutritional types; Reproduction and recombination(conjugation, transformation and transduction)
4	Algae	➢ The students are able to understand General characteristics; Ecology and distribution; range of thallus organization; Cell structure and components; cell wall, pigment system, reserve food, methods of reproduction, Classification, Role of algae in the environment, agriculture, biotechnology and industry.
5	Cyanophyta and Xanthophyta	➢ The students are able to understand Ecology and occurrence; Range of thallus organization; Cell structure; Reproduction, Morphology and life cycle of *Nostoc* and *Vaucheria*.
6	Chlorophyta and Charophyta:	➢ The students are able to understand the General characteristics of Chlorophyta and Charophyta; Occurrence; Range of thallus organization; Cell structure; Reproduction. Morphology and life-cycle of *Chlamydomonas, Volvox, Oedogonium, Coleochaete, Chara*. Evolutionary significance of Prochloron.
7	Phaeophyta and Rhodophyta:	➢ The students are able to acquire knowledge of Phaeophyta and Rhodophyta, its characteristics, occurrence. Range of thallus organization, Cell structure. Reprodution Morphology and life-cycle of *Ectocarpus, Fucus*and*Polysiphonia*.
Practical	Microbiology	➢ The students are able to understand Models of Viruses-T-Phage and TMV, Lytic and Lysogenic Cycle through Electron micrographs. ➢ The students are able to understand Gram staining Endospore staining with malachite green using the (endospores taken from soil bacteria)
	Phycology	➢ The students are able to understand vegetative and reproductive structures of Nostoc, Chlamydomonas(electron micrographs), Volvox, Oedogonium, Coleochaete, Chara, Vaucheria, Ectocarpus, Fucus and Polysiphonia, Prochloron through electron micrographs, temporary preparations and permanent.

Semester: I
Paper title: Biomolecules and Cell Biology (Honours)
Paper Code: CC2 (BOT 102H)

Unit	Name of the Topic	Course Outcomes
I	Biomolecules	➢ The students are able to understand the biomolecules, types, Chemical bonds and its significance. ➢ The students will know the structure and properties of water; pH and buffers. ➢ The students are able to acquire knowledge of, Carbohydrates, lipids, proteins and nucleic acids: classification, structure, functions and properties
II	Bioenergenetics	➢ The students will be able to understand Bioenergetics, laws of thermodynamics, concept of free energy. ➢ The students are able to understand ATP and its structure and its role as a energy currency molecule.
III	Enzymes	➢ The students are able to understand enzymes and its classification. ➢ The students are able to understand, Michaelis-Menten equation, enzyme inhibition and factors affecting enzyme activity.
IV	The Cell	➢ The students are able to acquire knowledge of Cell as a unit of structure and function; Characteristics of prokaryotic and eukaryotic cells; ➢ The students are able to understand the origin of eukaryotic cell (Endosymbiotic theory).
V	Cell wall and Plasma membrane	➢ The students are able to understand the concept of cell wall, plasma membrane, membrane function; fluid mosaic model; chemical composition of membranes. ➢ The students are able to understand membrane transport.
VI	Cell organelles	➢ The students are able to understand structure of Nucleus, cytoskeleton role and structure of microtubules, microfilaments and intermediary filament. ➢ The students are able to understand chloroplast, mitochondria and perioxisomes ➢ are able to understand Endomembrane system: Endoplasmic Reticulum, Golgi Apparatus and Lysosomes
VII	Cell division	➢ The students are able to understand Phases of eukaryotic cell cycle, mitosis and meiosis; Regulation of cell cycle-checkpoints, role of protein kinases.
	Practical	➢ The students will learn know about carbohydrate, lipids and protein test, cell structure, protoplast streaming in *Hydrilla* leaf. ➢ The students will know the technique of micrometry, cell counting with haemocytometer.

Semester: I
Paper Title: Biodiversity (Generic)
Paper Code: CC3 (BOT-103HR)

Unit	Name of the Topic	Course Outcomes
I	Microbes	➢ The students are able to understandViruses, Bacteria,its Generalcharacteristicsandcellstructure;Reproductionandrecombination of bacteria(conjugation,transformationandtransduction) and Economicimportance.
II	Algae	➢ The students are able to understand Algae, its generalcharacteristics;Ecologyanddistribution;Rangeofthallusorganizationandreproduction. ➢ The students are able to acquire knowledge of Classificationofalgae;Morphologyandlife-cyclesofthe following:*Nostoc*, *Chlamydomonas*, *Oedogonium*, *Vaucheria*, *Fucus*, *Polysiphonia*.Economicimportanceofalgae
III	Fungi	➢ The students are able to understand the concept of Fungi, its general characteristics, ecology and significance, range of thallus organization, cellwall composition, nutrition, reproduction and classification; life cycleof*Rhizopus*, *Penicillium*, *Alternaria*, *Puccinia*, *Agaricus*;SymbioticAssociations.
IV	Introductionto Archegoniate	➢ The students are able to understand Unifyingfeaturesofarchegoniates, Transitiontolandhabit,Alternationofgenerations.
V	Bryophytes	➢ The students are able to understand The Generalcharacteristics,adaptationstolandhabit,Classification,Rangeofthallusorganization.Classification, morphology, anatomy and reproduction of *Marchantia*and*Funaria*, .Ecologyandeconomicimportanceofbryophytes.
VI	Pteridophytes	➢ The students are able to understand and learn about Pteridophytes, its general characteristics, classification, morphology, anatomy and reproduction, economicalimportance.
VII	Gymnosperms	➢ The students are able to understand General characteristics; Classificationmorphology, anatomy and reproduction of*Cycas*and*Pinus*.
	Practical	➢ The students are able to understand EMs/Modelsofviruses and typesofBacteriafromtemporary/permanentslides/photographs;EMbacterium;BinaryFission;Conjugation;Structureofrootnodule. ➢ The students are able to understand vegetative and reproductive structures of *Nostoc*, *Chlamydomonas*(electron micrographs), *Volvox*, *Oedogonium*, *Vaucheria* and*Fucus*.

Semester: II

Paper Title: Mycology and Phytopathology (Honours)

Paper Code: CC3 (BOT-201H)

Unit	Name of the Topic	Course Outcomes
1	Introductionto truefungi	➢ The students are able to understand Fungi, its generalcharacteristics;Affinitieswithplantsandanimals;Thallusorganization;Cellwallcomposition;Nutrition;Classification.
2	ChytridiomycotaandZygomycota	➢ The students are able to understand ChytridiomycotaandZygomycota, its Characteristicfeatures;Ecologyandsignificance;Thallusorganisation;Reproduction;Lifecyclewithreferenceto*Synchytrium, Rhizopus*.
3	Ascomycota	➢ The students are able to understand General characteristics; Ecology; Life cycle, Heterokaryosisand parasexuality; Life cycle and classification with reference to *Saccharomyces, Aspergillus,Penicillium,Alternaria,Neurospora*and*Peziza*.
4	Basidiomycota	➢ The students are able to understand Basidiomycota, its general characteristics; Ecology; Life cycle and Classification with reference to black stem ruston wheat *Puccinia* (Physiological Specialization), loose and covered smut (symptoms only),*Agaricus*;Bioluminescence,FairyRings andMushroomCultivation.
5	Allied Fungi	➢ The students are able to understand Allied Fungi its general characteristics; Status of Slime molds, Classification; Occurrence; Types of plasmodia; Types of fruiting bodies.
6	Oomycota	➢ The students are able to understand Oomycota, its generalcharacteristics;Ecology; Lifecycleandclassificationwithreferenceto*Phytophthora,Albugo*.
7	Symbioticassociations	➢ The students are able to understand Lichen – Occurrence; General characteristics; Growth forms and range of thallus organization;Nature of associations of algal and fungal partners; Reproduction; Mycorrhiza-Ectomycorrhiza,Endomycorrhiza andtheirsignificance.
8	AppliedMycology	➢ The students are able to understand Roleoffungiinbiotechnology;Application offungiinfoodindustry, Secondary metabolites, Agriculture(Biofertilizers):Mycotoxins;Biologicalcontrol, Medicalmycology.
9	Phytopathology	➢ The students are able to understand Termsandconcepts;Generalsymptoms;Geographicaldistribution ofdiseases;Etiology;Symptomology;Bacterial diseases, Viral diseases, Fungal diseases.
	Practical	➢ The students are able to acquire knowledge of mountsandsexualstructures throughpermanent and temporaryslides and ➢ Sexualstage frompermanentslides/photographs.

Semester: II
Paper title: Archegoniate (Honours)
Paper Code: CC4 (BOT 202H)

Unit	Name of the Topic	Course Outcomes
I	Introduction of Archegoniate	➢ The students are able to understand cocept of archegoniate, its features, Transition to land habit, Alternation of generations
II	Bryophytes	➢ The students are able to understand Bryophytes, its characteristics, adaptation to land habit,classification, range of thallus organization.
III	Type studies- Bryophytes *(Riccia, Marchantia, pellia, porella, Anthrocerose, Sphagnum* and *Funaria.)*	➢ The students are able to understand the classification, morphology, anatomy. ➢ The students are able to understand the ecological and economic importance of Bryophytes with special reference to Sphagnum.
IV	Pteridophytes (*Cooksonia* and *Rhynia*)	➢ The students are able to understand Pteridophytes; its general characteristics; Classification; Early land plants (*Cooksonia* and *Rhynia*)
V	Type studies- Pteridophytes *(Psilotum, Selaginella, Equistum* and *Pteris.)*	➢ The students are able to understand classification, morphology, anatomy and reproduction. ➢ The students are able to understand Telome theory, Stelar evolution, Ecological and economic importance
VI	Gymnosperm *(Cycas, pinus* and *Gnetum.)*	➢ The students are able to understand Gymnosperm, its general characters, classification, morphology, anatomy and reproduction.
	Prcticals	➢ The students will know and learn to prepare permanent and temporary slides of different parts of Bryophytes, Pteridophytes.

Semester: II
Paper title: Plant Ecology and Taxonomy (Generic)
Paper Code: GE2 (BOT 203HR)

Unit	Name of the Topic	Course Outcomes
I	IntroductionofEcologyandTaxonomy	➢ The students are able to understand the concept of EcologyandTaxonomy
II	Ecologicalfactors	➢ The students are able to understand Soil: Origin,formation, composition, soil profile.Water: Statesof waterin the environment,precipitation types. Light and temperature: Variation Optimal and limiting factors; Shelford law oftolerance.Adaptation of hydrophytes and xerophytes
III	Plantcommunities	➢ The students are able to understand Plant communities, Characters;Ecotoneandedgeeffect;Succession:Processesandtypes

IV	Ecosystem	➢ The students are able to understand Structure of ecosystem;energyflowtrophicorganization;Foodchainsan dfoodwebs, Ecologicalpyramidsproduction and productivity; Biogeochemical cycling; Cycling of carbon, nitrogen andPhosphorous
V	Phytogeography	➢ The students are able to understand Principlebiogeographicalzones;Endemism
VI	Introductiontoplanttaxo nomy	➢ The students are able to understand Identifcation,Classification,Nomenclature
VII	Identification	➢ The students are able to understand FunctionsofHerbarium,important herbariaandbotanicalgardensoftheworldandIndia;Documentation: Flora, Keys:singleaccessandmulti-access
VIII	Taxonomicevidence sfrompalynology,cyt ology,phytochemistr yandmoleculardata.	➢ The students are able to understand Taxonomicevidencesfrompalynology,cytology,phytochemistry andmoleculardata.
IX	Taxonomichierarchy	➢ The students are able to understand Ranks,categoriesandtaxonomicgroups
X	Botanicalnomenclature	➢ The students are able to understand Principlesandrules(ICN);ranksandnames;binominalsystem,typi fication, authorcitation, validpublication,rejectionofnames, principleofpriorityanditslimitations.
XI	Classification	➢ The students are able to understand Typesofclassification.
XII	Biometrics,numericalta xonomyandcladistics	➢ The students are able to understand Characters;variations;OTUs,characterweightingandcoding;clu steranalysis;phenograms,cladograms (definitionsand differences).
	Practical	➢ The students are able to understandinstrumentsusedtomeasuremicroclimaticvariables, DeterminationofpH,andanalysisoftwosoilsamplesforcarbonates ,chlorides,nitrates,sulphates,organicmatterandbasedeficiencyb yrapid field test. ➢ The students are able to understand morphological adaptations of hydrophytes and xerophytes. Mountingofaproperlydricdandpressedspecimenofanywildplant withherbariumlabel.

Semester: III

Paper title: Anatomy of Angiosperm (Honours)

Paper code: CC5 (BOT-301H)

Unit	Name of the Topic	Course Outcomes
I	Introduction and scopeofPlantAnatomy	➢ The students are able to understand Applicationsinsystematics,forensicsandpharmacognosy.
II	StructureandDevelopmentofPlant Body	➢ The students are able to understand Internalorganizationofplantbody, Development of plant body: Polarity, Cytodifferentiation and organogenesis during embryogenicdevelopment.
III	Tissues	➢ The students are able to understand Classification of tissues; cytodifferentiation oftracheary elements and sieve elements; Pits and plasmodesmata; Wall ingrowths and transfercells, adcrustation and incrustation, Ergastic substances. Hydathodes, cavities, lithocysts andlaticifers.
IV	Apicalmeristems	➢ The students are able to understand Evolutionofconceptoforganizationofshootapex, Typesofvascularbundles; Structure of dicot and monocot stem. Origin, development, arrangement and diversity insizeandshapeofleaves;Structureofdicotandmonocotleaf,Kranzanatomy.Organizationof root apex, Structureofdicotandmonocotroot.
V	VascularCambiumandWood	➢ The students are able to understand Structure,functionandseasonalactivityofcambium;Secondarygrowthinrootandstem.Axiallyandradiallyorientedelements; ➢ The students will acquire knowledge of different typesofraysandaxialparenchyma;Cyclicaspectsandreactionwood; Sapwoodandheartwood;Ringanddiffuseporouswood;Earlyandlatewood,tyloses;Dendrochronology.Developmentandcomposition ofperiderm,rhytidomeandlenticels.
VI	AdaptiveandProtectiveSystems	➢ The students are able to understand Epidermaltissuesystem,cuticle,epicuticularwaxes,trichomes, stomata; Adcrustation and incrustation;Anatomicaladaptations ofxerophytesandhydrophytes.
	Practicals	➢ The students are able to understand anatomicaldetailsthroughpermanentslides/temporarystainmounts/macerations/museumspecimenswiththe helpofsuitable examples. Apicalmeristem parenchyma, Xylem, Wood Phloem, Epidermalsystem.

Semester:III
Paper title: Economic Botany (Honours)
Paper code: CC6 (BOT-302H)

Unit	Name of the Topic	Course Outcomes
I	Origin of Cultivated Plants	➢ The students are able to understand Conceptof Centres of Origin,theirimportance with reference toVavilov's work.Examples ofmajorplantintroductions;Cropdomesticationandlossofgeneticdiversity;evolutionofnewcrops/varieties,importanceofgermplasmdiversity.
II	Cereals	➢ The students are able to understand WheatandRice(origin,morphology,processing&uses);Briefaccountofmillets.
III	Legumes	➢ The students are able to understand Origin,morphologyandusesoflegumes.Importancetomanandecosystem.
IV	Sourcesofsugarsandstarches	➢ The students are able to understand Morphologyandprocessingof sugarcane,productsandby-productsofsugarcaneindustry.Potato–morphology,propagation&uses.
V	Spices	➢ The students are able to understand Listing of important spices, their family and part used. Economic importance with specialreference tofennel,saffron,clove andblackpepper
VI	Beverages	➢ The students are able to understand Beverages (morphology,processing&uses of tea and coffee)
VII	Sourcesofoilsandfats	➢ The students are able to understand General description,classification,extraction,theirusesandhealthimplications, Essential Oils:Generalaccount,extractionmethods.
VIII	NaturalRubber	➢ The students are able to understand Para-rubber:tapping,processinganduses.
IX	Drug-yieldingplants	➢ The students are able to understand Therapeuticandhabit-formingdrugswithspecialreferencetoCinchona,Digitalis,Papavera nd ➢ Cannabis;Tobacco(Morphology,processing,usesandhealthhazards
X	Timberplants	➢ The students are able to understand Generalaccount of timber plants withspecialreferencetoteak and pine.
XI	Fibers	➢ The students are able to understand Fibres, Classification based on the origin of fibers; Cotton, Coir and Jute (morphology, extractionanduses).
	Practical	➢ The students are able to acquire knowledge of Cereals, Legumes, **Sources of sugars and starches, Spices, Beverages, Sources of oils and fats, Essentialoil-yieldingplants, Rubber** throughspecimen, photograph/modeloftapping,samplesofrubberproducts.

Semester:III

Paper title: Genetics (Honours)

Paper Code: CC7 (BOT 303H)

Unit	Name of the Topic	Course Outcomes
I	Mendelian genetics and its extension	➢ The students are able to acquire knowledge about history, Principles of inheritance, probability and pedigree analysis. ➢ The students are able to understand Multiple alleles, Lethal alleles, Epistasis, pleoiotrophy, penetrance and expressivity, polygenic inheritance.
II	Extrachromosomal Inheritance	➢ The students are able to understand chloroplast mutation, variegation in Four o'clock plant, mitochondrial mutation, maternal effects-shell coiling in snail, infective heredity-Kappa particles in *Paramaecium*.
III	Linkage, crossing over and chromosome mapping	➢ The students will learn about Lingkage and crossing over, Recombination frequency, gene mapping, sex lingkage.
IV	Variation in chromosome number and structure	➢ The students are able to understand Deletion, Duplication, Inversion, translocation, Position effect, Euploidy and Aneuploidy.
V	Gene mutations	➢ The students are able to understand mutation, types of mutation, molecular basis of mutations, Detection of mutations, DNA repair mechanism
VI	Fine structure of gene	➢ The students are able to learnclasssical vs molecular concept of genesStructure of Phage T4, rII Locus.
VII	Population and Evolutionary Genetics	➢ The students will understand Alleles frequencies, Genotype frequencies, Hardy-weinberg Law, genetic drift, Genetic variation and Speciation.
	Practical	➢ The students are able to understand Mendel's law through seed ratios, Chromosome mapping using point test cross data, aneuploidy and human genetic traits

Semester: III

Paper title: Biofertilizers

Paper code: BOT-304HR (AEC-SEC-1)

Unit	Name of the Topic	Course Outcomes
I	Microbes	➢ The students are able to understand microbes used as biofertilizers, Rhizobium, Actinorrhizal symbiosis.
II	*Azospirillum*	➢ The students are able to understand isolation and mass multiplication of *Azospirillum*, associative response to *Azotobacter* inoculums.
III	Cyanobacteria, *Azolla* and *Anaebaena azolla*	➢ The students will learn about nitrogen fixation, blue green algae and *Azolla* in rice cultivation.
IV	Mycorrhiza	➢ The students are able to understand Mycorrhizal association,types of micorrhizal association, taxonomy, occurrence and distribution. ➢ The students will acquire knowledge of VAM, isolation and inoculums production of VAM and its influence on growth and yield of crop plants.
V	Organic farming	➢ The students are able to understand green manuring, organic fertilizers, Recycling of bio-degradable municipal and industrial wastes.

emester: III
Paper title: Plant Anatomy and Embryology (Generic)
Paper code: GE 3 (BOT-305H)

Unit	Name of the Topic	Course Outcomes
I	Meristematic and permanent tissues	➢ The students are able to understand Root and shoot apical meristems, Simple and complex tissues
II	Organs	➢ The students will acquire knowledge of the structure of dicot and monocot root stem and leaf.
III	Secondary Growth	➢ The students are able to understand Vascular cambium, its structure and function, secondary growth in root and stem, ➢ The students are able to understand wood.
IV	Adaptive and protective systems	➢ The students are able to understand Epidermis, cuticle, stomata. ➢ The students are able to learn adaptations in xerophytes and hydrophytes.
V	Structural organization of flower	➢ The students are able to understand structure of anther and pollen, structures and types of ovules, types of embryo sacs, organization and ultra structure of mature embryosacs.
VI	Pollination and fertilization	➢ The students are able to understand pollination mechanisms and adaptations, double fertilization and dispersal mechanism.
VII	Embryo and endosperm	➢ The students will acquire knowledge about endosperm and its types, structure and functions. ➢ The students are able to understand Dicot and Monocot embryo, Embryo-endosperm relationship.
VIII	Apomixis and polyembryony	➢ The studens will know the concept of Apomixis and polyembryony, its types and application.
IX	Practical	➢ The students will learn about meristems, tissues, types of ovulethrough permanent slides and photographs. ➢ The students are able to know the monocot and dicot stem, leaf and root, adaptive anatomy of xerophytes and hydrophytes, pollination types, dissection of embryo from developing seeds. ➢ The students will learn about structure of anther and tapetum.

mester: IV
aper Title: Molecular Biology (Honours)
aper Code: CC8(BOT-401H)

Unit	Name of the Topic	Course outcomes
1	Nucleic acids: Carriers of genetic information	➢ Students are able to study the function of DNA. ➢ Students are also able to study the different experiments related to DNA, such as Griffith's, Hershey & Chase, Avery, McLeod & McCarty, Fraenkel-Conrat's experiment.
2.	The Structures of DNA and RNA/Genetic Material.	➢ Students are able to study the DNA structure, salient features of double helix, types of DNA, types of genetic material and cot curves. ➢ Students can study the organization of DNA like the prokaryotes, viruses, eukaryotes. ➢ Students can also study the mitochondria and chloroplast DNA and also the nucleosome chromatin structure.
3.	The replication of DNA	➢ Students can study the chemistry of DNA synthesis and general principles like the bidirectional, semi conservative and semi discontinuous replication. ➢ Students can also study the various models of DNA replication, including rolling circle, theta mode of replication, replication of linear ds-DNA and enzymes involved in DNA replication.
4.	Central dogma and genetic code	➢ Students are able to study the key experiments establishing the Central Dogma and deciphering salient features of genetic code.
5.	Transcription	➢ Students can study about the process of transcription in prokaryotes and eukaryotes. ➢ Students can also study the regulation of lactose metabolism and tryptophan synthesis in E.coli. ➢ Students can also study the Eukaryotes transcription factors, heat shock proteins, steroids, peptide hormones and gene silencing.
6.	Processing and modification of RNA	➢ Students can study the split genes concept of introns and exons, spliceosome machinery, splicing pathways, group I and group II intron splicing and mRNA processing. ➢ Students can also study about ribozymes, RNA editing and mRNA transport.
7.	Translation	➢ Students are able to study the structure of Ribosome, mRNA, tRNA and various steps in protein synthesis. ➢ Students can also study the Fidelity of translation, inhibitors of protein synthesis and post-translational modifications of proteins.
	Practical	Students are able to understand preparation of LB medium and raise *E. Coli*, Isolation of genomic DNA

Semester: IV

Paper Title: Plant ecology and phytogeography (Honours)

Paper Code: CC9 (BOT-402H)

Unit	Name of the Topic	Course Outcome
1.	Introduction	➢ Students can study the levels of organization of the living world and inter-relationships between the living world and the environment.
2.	Soil	➢ Students can study about the importance, origin, formation, composition, physical and biological components of soil. ➢ Students are also able to study the soil profile and role of climate in soil development in this unit.
3.	Water	➢ Students are able to study the importance and states of water in the environment, atmospheric moisture, precipitation types, water in soil and hydrological cycle.
4.	Light, temperature, wind and fire	➢ Students are able to study the variation in plants and adaptations of plants to their variation.
5.	Biotic interactions	➢ Students are able to study the trophic organization of the living, autotrophy, heterotrophy, symbiosis, commensalism, parasitism, food chains and webs. ➢ Students are also able to study the ecological pyramids, biomass and standing crop.
6.	Population ecology	➢ Students are able to study about the characteristics and dynamics of population. ➢ Students are also able to study the ecological speciation in this unit.
7.	Plant communities	➢ Students are able to study the concept of ecological amplitude, habitat and niche, ecotone and edge effect. ➢ Students are also able to study the processes and types in ecological succession and the climax concepts of succession.
8.	Ecosystems	➢ Students are able to study the structure, processes and trophic organization in ecosystem. ➢ Students are also able to study the food chains, food webs and ecological pyramids in ecosystem.
9.	Functional aspects of ecosystem	➢ Students are able to study the principles and models of energy flow, production and productivity, ecological efficiencies, and biogeochemical cycles.
10.	Phytogeography	➢ Students are able to study the principles, continental drift, endemism and brief introduction to major terrestrial biomes.
	Practical	➢ The students are able to understand instruments used to measure microclimatic variables. ➢ The students are able to understand Determination of pH of various soil and water samples, Analysis for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency.

Semester: IV
Paper Title: Plant Systematics (Honours)
Paper Code: CC-10 (BOT-403 H)

Unit	Name of the Topic	Course Outcome
1.	Significance of Plant systematics	➢ Students are able to study introduction to plant systematics including plant identification, classification, nomenclature, and evidences from palynology, cytology, phytochemistry and molecular data. ➢ Students are able to study the field inventory, functions of herbarium and important herbaria and botanical gardens of the world and India. ➢ Students are able to study in details about the virtual herbarium, E-flora, monographs, journals, keys and single access and multi access.
2.	Taxonomic hierarchy	➢ Students are able to study the concept of family, genus, species and also concepts of categories and taxonomic hierarchy and some species concept.
3.	Botanical nomenclature	➢ Students are able to study the principles and rules of Botanical nomenclature, ranks and names, typification, author citation, valid publications, rejection of names, principle of priority and its limitations and names of hybrids.
4.	Systems of classification	➢ The students can study about different classification system for plants in this unit. They are also able to study the classification system of Bentham and Hooker and Engler and Prantl. ➢ Students are able to study the Angiosperm Phylogeny Group classification in this unit.
5.	Biometrics, numerical taxonomy and cladistics	➢ Students are able to study the characters, variations, OTUs, character weighting and coding, Cluster analysis, phenograms and cladograms.
6.	Phylogeny of Angiosperms	➢ Students can gain knowledge about the origin and evolution of angiosperms, Co-evolution of angiosperms and animals and terms and concepts of Phylogeny.
	Practical	➢ Students can gain knowledge about of vegetative and floral characters and Mounting of a properly dried and pressed specimen of any wild plant with herbarium label.

emester: IV
Paper Title: Plant Physiology and Metabolism ([redacted])
Paper Code: GE-4 (BOT-405H)

Unit	Name of the Topic	Course Outcome
1.	Plant-water relations	➢ The students are able to study the importance of water and transpiration in plants and factors affecting transpiration.
2.	Mineral nutrition	➢ Students are able to study the essential elements, macro and micro nutrients, criteria and role of essential elements. ➢ Students are also able to study the transport of ions across cell membrane, active and passive transport, carriers, channels and pumps.
3.	Translocation in phloem	➢ Students are able to study the composition of phloem sap, girdling experiment, pressure flow model, phloem loading and unloading.
4.	Photosynthesis	➢ Students are able to study the Photosynthetic pigments, photosystem I and II, reaction center, antenna molecules, electron transport and mechanism of ATP synthesis. ➢ Students are also able to study the C3, C4 and CAM pathways of carbon fixation and photorespiration in this unit.
5.	Respiration	➢ Students are able to study the process of glycolysis, anaerobic respiration, TCA cycle, oxidative phosphorylation, glyoxylate, oxidative pentose phosphate pathway.
6.	Enzymes	➢ Students are able to study the structure and properties of enzymes, mechanism of enzyme catalysis and enzyme inhibition in this unit.
7.	Nitrogen metabolism	➢ Students are able to gain knowledge of Biological nitrogen fixation, nitrate and ammonia assimilation in this unit.
8.	Plant growth regulators	➢ Students are able to study the discovery and physiological roles of auxins, gibberellins, cytokinins, ABA, ethylene.
9.	Plant response to light and temperature.	➢ Students are able to study about photoperiodism, phytochrome, red and far red light responses on photomorphogenesis and vernalization in plants.
	Practicals	➢ Students are able to study about Determination of osmotic potential of plant cell sap by plasmolytic method. ➢ Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.

emester: IV

Paper Title: Mushroom culture technology (Honours)

Paper Code: BOT-404HR (SEC2)

Unit	Name of the Topic	Course Outcome
1.	Introduction and history of mushroom culture technology	➢ Students are able to gain knowledge about the nutritional and medicinal value of edible mushrooms and poisonous mushrooms.
2.	Cultivation Technology	➢ Students are able to study the Infrastructure and other requirements for the cultivation of mushroom. ➢ Students are also able to study the technique of mushroom bed preparation and the factors that affect the mushroom bed preparation.
3.	Storage and Nutrition.	➢ Students are able to study the short term and long term storageand nutritions like proteins, amino acids, mineral elements nutrition- Carbohydrates, crude fibre content and Vitamins.
4.	Food preparation	➢ Students are able to study the types of foods prepared from mushroom, research centres in national and regional level for mushrooms and cost benefit ratio, marketing in India and abroad and export value.

Semester: V

Paper Title: Reproductive Biology of Angiosperm (Honours)

Paper Code: CC11 (BOT-501H)

Unit	Name of the topic	Course Outcome
1	Introduction to reproductive Biology of Angiosperms	➢ Students are able to study the history and scope of reproductive biology of Angiosperms in this chapter.
2.	Reproductive development	➢ Students are able to study the induction of flowering, flower as a modified determinate shoot, and genetic and molecular aspects of flower development.
3.	Anther and pollen biology	➢ Students are able to study the anther wall and its Structure and functions, microsporogenesis, callose deposition and its significance and microgametogenesis.
4.	Ovule	➢ Students are able to study the structure, types, and special structures–endothelium, obturator, aril, caruncle and hypostase. ➢ Students are also able to study the female gametophyte.
5.	Pollination and fertilization	➢ Students are able to study the pollination types and significance, adaptations, structure of stigma and style, path of pollen tube in pistil and double fertilization in this unit.

	Self incompatibility	➢ Students are able to study the basic concepts of self incompatibility which include interspecific, intraspecific, homomorphic, heteromorphic, GSI and SSI. ➢ They can also study about the methods to overcome self-incompatibility which includes mixed pollination, bud pollination, stub pollination, Intra-ovarian and in vitro pollination.
7.	Embryo, Endosperm and Seed	➢ Students are able to study the structure and types and general pattern of development of dicot and monocot embryo and endosperm,
8.	Polyembryony and apomixis	➢ Students are also able to study the introduction, classification and causes and applications of polyembryony and apomixes.
	Practical	➢ Students are able to understand Anther, Pollen grains, Ovule, Embryogenesis through slide and photographs.

Semester: V
Paper Title: Plant Physiology (Honours)
Paper Code: CC12 (BOT-502H)

Unit	Name of the Topic	Course outcome
1	Plant-water relations	➢ Students are able to study about the water potential and its components, water absorption by roots, aquaporins, pathway of water movement, symplast, apoplast, transmembrane pathways, root pressure, guttation. ➢ Students are also able to study the ascent of sap which includes cohesion-tension theory. ➢ Students are able to gain knowledge on transpiration and factors affecting transpiration, antitranspirants, and mechanism of stomatal movement.
2	Mineral nutrition	➢ Students are able to study the essential and beneficial elements, macro and micronutrients, methods of study and use of nutrient solutions, criteria for essentiality, mineral deficiency symptoms, roles of essential elements, chelating agents.
3	Nutrient Uptake	➢ Students are able to study about soil as a nutrient reservoir, transport of ions across cell membrane, passive absorption, electrochemical gradient, facilitated diffusion, active absorption. ➢ Students are also able to study the role of ATP, carrier systems, proton ATPase pump and ion flux, uniport, co-transport, symport, antiport.
4	Translocation in the Phloem	➢ Students are able to gain knowledge on experimental evidence in support of phloem as the site of sugar translocation. ➢ Students are also able to gain knowledge pressure–flow model, phloem loading and unloading and source–sink relationship.
5	Plant growth regulators	➢ Students are able to study about the discovery, chemical nature (basic structure), bioassay and physiological roles of Auxin, Gibberellins, Cytokinin, Abscisic acid, Ethylene, Brassinosteroids and Jasmonic acid.

	Physiology of flowering	➢ Students are able to study about the photoperiodism, flowering stimulus, florigen concept, vernalization and seed dormancy.
	Phytochrome, crytochromes and phototropins	➢ Students are able to study the discovery, chemical nature, role in photomorphogenesis, low energy responses (LER) and high irradiance responses (HIR) and mode of action in this unit.
	Practical	➢ Students are able to understand about Determination of osmotic potential of plant cell sap by plasmolytic method and Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.

Semester: V

Paper Title: Analytical techniques in plant sciences (Honours)

Paper Code: BOT-D1HR (DSE1)

Unit	Name of the topic	Course Outcome
1	Imaging and related techniques	➢ Students are able to study the principles of microscopy, Light microscopy, Fluorescence microscopy, Confocal microscopy, Applications of fluorescence microscopy, Transmission and Scanning electron microscopy. ➢ Students are also able to study the sample preparation for electron microscopy, cryofixation, negative staining, shadow casting, freeze fracture, freeze etching in this unit.
2	Cell fractionation	➢ Students are able to study the different techniques of centrifugation which includes differential and density gradient centrifugation, sucrose density gradient, CsCl2 gradient, analytical centrifugation, ultracentrifugation, marker enzymes.
3	Radioisotopes	➢ Students are able to study the use of radioisotopes in biological research, auto-radiography and pulse chase experiment.
4	Spectrophotometry	➢ Students are able to study the principle and application of spectrophotometry in biological research.
5	Chromatography	➢ Students are able to study the principle of paper chromatography, column chromatography, TLC, GLC, HPLC, Ion exchange chromatography, molecular sieve chromatography and affinity chromatography
6	Characterization of proteins and nucleic acids	➢ Students are able to study the mass spectrometry, X-ray diffraction, X-ray crystallography, characterization of proteins and nucleic acids and Electrophoresis which includes AGE, PAGE, SDS-PAGE
7.	Biostatistics	➢ Students are able to study the statistics, data, population, samples, parameters, representation of data that includes tabular, graphical, measures of central tendency, arithmetic mean, mode, median, measures of dispersion that includes range, mean deviation, variation, standard deviation and chi-square test for goodness of fit.
	Practical	➢ Students are able to understand Blotting techniques, DNAfingerprinting, DNA sequencing, PCR through photographs, thin layer chromatography, Isolation of chloroplasts by differential centrifugation.

Semester: V

Paper Title: Bioinformatics

Paper Code: BOT-D2HR (DSE-2)

Unit	Name of the title	Course outcome
1.	Introduction to Bioinformatics	➢ Students are able to study the introduction, branches, and aim, scope and research areas of Bioinformatics.
2.	Databases in Bioinformatics	➢ Students are able to study the introduction, biological databases and classification format of Biological databases
3.	Biological sequence databases	➢ Students are able to gain knowledge about National Center for Biotechnology Information (NCBI) and its tools and dfatabases. ➢ They are also able to study about EMBL Nucleotide Sequence Database (EMBL-Bank).
4.	Sequence alignments	➢ Students are able to study about the introduction, concept of Alignment and Multiple Sequence Alignment (MSA) in this unit.
5.	Molecular phylogeny	➢ Students are able to study the methods of Phylogeny, Software for Phylogenetic Analyses, Consistency of Molecular and Phylogenetic Prediction.
6.	Applications of Bioinformatics	➢ Students can gain knowledge about the structural bioinformatics in drug discovery, techniques in drug design, microbial genome applications and crop improvement
	Practical	➢ Students are able to understand Nucleic acid and protein databases, Sequence retrieval from databases, Sequence alignment, Sequence homology and Gene annotation, Construction of phylogenetic tree.

Semester: VI
Paper title: Plant metabolism (Honours)
Paper Code: CC13 (BOT-601 H)

Unit	Name of the Topic	Course Outcomes
I	Concept of metabolism	➢ The students are able to understand the concept of metabolism, anabolic and catabolic pathways, regulation of metabolism, role of regulatory enzymes (allosteric ,covalent modulation and Isozymes).
II	Carbon assimilation	➢ The students will acquire knowledge of photosynthetic pigments, role of photosynthetic pigments, antenna molecules andreaction centres, photochemical reactions, photosynthetic electron transport, C4 pathways; Crassulacean acid metabolism; Factors affecting CO2 reduction.
III	Carbohydrate metabolism	➢ The students are able to understand the synthesis and catabolism of sucrose and starch.
IV	Carbon oxidation	➢ The students are able to understand Glycolysis, oxidative pentose phosphate pathway, regulation of PDH, NADH shuttle; TCA cycle, factors affecting respiration.
V	ATP synthesis	➢ The students are able to understand Mechanism of ATP synthesis, substrate level phosphorylation, chemiosmotic mechanism, ATP synthase, Boyers conformational model, Racker's experiment, Jagendorf's experiment
VI	Lipid metabolism	➢ Synthesis and breakdown of triglycerides, β-oxidation, glyoxylate cycle, gluconeogenesis and its role in mobilisation of lipids during seed germination, α oxidation.
VII	Nitrogen metabolism	➢ The students are able to understand Nitrate assimilation, biological nitrogen fixation (examples of legumes and non-legumes); Physiology and biochemistry of nitrogen fixation; Ammonia assimilation and transamination
VIII	Mechanism of signal transduction	➢ The students are able to understand Receptor-ligand interactions; Second messenger concept, Calcium calmodulin, MAP kinase cascade.
IX	Practical	➢ The students are able to understand and learn Chemical separation of photosynthetic pigments, Hill's reaction, the effect of light intensity on the rate of photosynthesis, rate of respiration in different parts of a plant.

Semester: VI
Paper title: Plant Biotechnology (Honours)
Paper Code: CC14 (BOT 602 H)

Unit	Name of the Topic	Course Outcomes
I	Plant tissue Culture	➢ The students are able to understand Historical perspective, Composition of media, Totipotency; Organogenesis, Embryogenesis, Protoplast isolation, culture and fusion, Tissue culture applications.
II	Recombinant DNA technology	➢ The students are able to acquire knowledge of Restriction Endonucleases, Restriction Mapping (Linear and Circular), Cloning Vectors.
III	Gene cloning	➢ The students are able to understand Recombinant DNA. ➢ The students able able to acquire knowledge of Bacterial Transformation and selection of recombinant clones and PCR
IV	Methods of gene transfer	➢ The students are able to understand *Agrobacterium*-gene transfer by Electroporation, mediated, Microinjection, Microprojectile bombardment; Selection of transgenics–selectable marker and reporter genes.
V	Application of Biotechnolgy	➢ The students are able to understand Pest resistant, herbicide resistant plants, Transgenic crops with improved quality traits, Improved horticultural varieties, Gentically Engineered Products–Human Growth Hormone.
	Practical	➢ The students are able to understand and learn about Preparation of MS medium, *in vitro* sterilization and inoculation methods using leaf and nodal explants, micropropagation, Isolation of protoplasts, Isolation of plasmid DNA and Restriction digestion and gel electrophoresis of plasmid DNA.

Semester: VI
Paper title: Natural resource and management
Paper Code: BOT D3 H (DSE 3)

Unit	Name of the Topic	Course Outcomes
I	Natural resources	➢ The students are able to know the concept of Natural resources and types.
II	Sustainable utilization	➢ The students are able to understand Concept of Sustainable utilization, approaches (economic, ecological and socio-cultural).
III	Land	➢ The students are able to understand land Utilization (agricultural, pastoral, horticultural, silvicultural); Soil degradation andmanagement.
IV	Water	➢ The students are able to understand Fresh and Marine water, Threats and management strategies.
V	Biological Resources	➢ The students are able to understand Biodiversity-definition and types; Significance; Threats; Management strategies;Bio-prospecting; IPR; CBD; National Biodiversity Action Plan).
VI	Forests	➢ The students are able to understand Definition, Cover and its significance (with special reference to India); Major andminor forestproducts; Depletion; Management.
VII	Energy	➢ The students are able to understand Renewable and non-renewable sources of energy.
VIII	Contemporary practices in resource management	➢ The students are able to understand EIA, GIS, Participatory Resource Appraisal, Ecological Footprint with emphasison carbon footprint, Resource Accounting; Waste management.
IX	National and international efforts in resource management and conservation	➢ The students are able to understand National and international efforts in resource management and conservation
	Practical	➢ The students are able to understand Estimation of solid waste generated by a domestic system (biodegradableand non-biodegradable) and its impact on land degradation, Collection of data on forest cover of specific area, Measurement of dominance of woody species by DBH (diameter at breastheight) method, Calculation and analysis of ecological footprint, Ecological modeling.

Semester: VI
Paper title: Natural resource and management
Paper Code: BOT D3 H (DSE 3)

Unit	Name of the Topic	Course Outcomes
I	Scope of microbes in industry and environment	The students are able to understand Scope of microbes in industry and environment
II	Bioreactors/Fermenters and fermentation processes	The students are able to understand Solid-state and liquid-state, Components of a typical bioreactor, Types of bioreactors.
III	Microbial production of industrial products	The students are able to understand Microorganisms involved, media, fermentation conditions, downstream processingand uses; Filtration, centrifugation, cell disruption, solvent extraction, precipitationand ultrafiltration.
IV	Microbial enzymes of industrial interest and enzyme immobilization	The students are able to understand Microorganisms for industrial, starch hydrolysis; cellulose hydrolysis. Methods of immobilization.
V	Microbes and quality of environment.	The students are able to understand Distribution of microbes in air; Isolation of microorganisms from soil, air and water.
VI	Microbial flora of water	The students are able to understand Water pollution, role of microbes in sewage and domestic waste water treatmentsystems. Determination of BOD, COD, TDS and TOC of water samples
VII	Microbes in agriculture and remediation of contaminated soils.	The students are able to understand Biological fixation; Mycorrhizae; Bioremediation of contaminated soils. Isolationof root nodulating bacteria, arbuscular mycorrhizal colonization in plant roots.
	Practical	The students are able to understand Principles and functioning of instruments in microbiology laboratory, Hands on sterilization techniques and preparation of culture media

COURSE OUTCOME

GOSSAIGAON COLLEGE, GOSSAIGAON

SUB:-CHEMISTRY

SEMESTER-I

Paper Title:-Inorganic Chemistry-i

Paper code- CC I

Unit	Name of Topic	Course Outcomes
I	Atomic Structure	• The students are able to know about the structure of atom. • The students are able to know about the quantum number of an atom.
II	Periodicity of elements	• The students are able to know about the energy levels of an atom. • The students are able to know about the radii, ionisation enthalpy, electro negativity etc.
III	Chemical Bonding	• The students are asked to know about the ionic bond. • The students are able to know about the covalent bond
IV	Oxidation-Reduction	• The students are able to know about the redox equation • The students are able to know about the volumetric analysis.
V	LAB	• Estimation of Fe(II) by using standard $KMnO_4$ • Estimation of Oxalic acid by using standard $KMnO_4$ • Estimation of Fe(II) with $K_2Cr_2O_7$ • Estimation of oxalic acid and sodium oxalate in a given mixture

Paper title:- PHYSICAL CHEMISTRY

Paper Code:- CC2

Unit	Nameof the Topic	Course Outcomes
I	Gaseous state	• The students are able to know about the Kinetic gas equation • The students are able to know about the Velocities (Average, root mean square and most probable) viscosity of gaseous state. • The students are able to know about the
II	Liquid state	• The students are able to know about the qualitative treatment of the structure of the liquid • The students are able to know about the surface tension
III	Solid state	• The students are able to know about the

		elementary ideas of the symmetry • The students are able to know about the defects in crystals
IV	Ionic equilibrium	• The students are able to know about the degree of ionization • The students are able to know about the ionic product of water • The students are able to know about the common ion effect
V	LAB	• The students are able to know about the determination of surface tension • The students are able to know about the viscosity of aqueous solution • The students are able to know about the preparation of buffer solutions of different pH

Paper title:- Chemistry-I

Paper Code:- GE-2/DSC-2A

Unit	Name of the Topic	Course Outcomes
I	Atomic Structure	• The students are able to know about the structure of atom. • The students are able to know about the quantum number of an atom
II	Chemical Bonding and Molecular Structure	• The students are asked to know about the ionic bond. • The students are able to know about the covalent bond
III	Fundamentals of Organic Chemistry	• The students are able to know about the bond cleavage • The students are able to know about the shape and reactivity of organic molecules • The students are able to know about the reactive intermediates
IV	Stereochemistry	• The students are able to know about the conformations • The students are able to know about the D & L, R/S and E/Z nomenclature
V	Aliphatic Hydrocarbons	• The students are able to know about the reactions of alkanes • The students are able to know about the reactions of alkenes • The students are able to know about the reactions of alkynes
VI	LAB	• Estimation of Fe(II) by using standard $KMnO_4$ • Estimation of Oxalic acid by using standard $KMnO_4$ • Estimation of Fe(II) with $K_2Cr_2O_7$ • Estimation of Cu(II) using $Na_2S_2O_3$ • The students are able to know about the detection

		of elements present in organic compounds. • The students are able to know about the separation of mixtures by chromatography.

Semester-2

Paper Title:- Organic Chemistry-I

Paper Code:- CC 3

Unit	Name of the Topic	Course Outcomes
I	Basic of Organic Chemistry	• The students are able to know about the Hybridisation • The students are able to know about the bond fission • The students are able to know about the relative stability of carbocations, carbanions and free radicals.
II	Stereochemistry	• The students are able to know about the conformations • The students are able to know about the D & L, R/S and E/Z nomenclature
III	Chemistry of Aliphatic Hydrocarbon	• The students are able to know about the reactions of alkanes • The students are able to know about the reactions of alkenes • The students are able to know about the Cycloalkanes and conformational analysis.
IV	Aromatic Hydrocarbon	• The students are able to know about the reactions of aromatic hydrocarbons.
V	LAB	• The students are able to know about the determination of melting point of unknown organic compounds. • The students are able to know about the determination of boiling point of liquid compounds • The students are able to know about the chromatography. • The students are able to know about the thin layer chromatography • The students are able to know about the paper chromatography

Paper Title:- Physical Chemistry-II

Paper Code:- CC-4

Unit	Name of the Topic	Course Outcomes
I	Chemical Thermodynamics	• The students are able to know about the first law, second law and third law of thermodynamics • The students are able to know about the free energy functions
II	Systems of Variable Compositions	• The students are able to know about the partial molar quantities • The students are able to know about the chemical potential of ideal mixtures • The students are able to know about the Gibbs-Duhem equation
III	Chemical Equilibrium	• The students are able to know about the free energy of mixing and spontaneity • The students are able to know about the Le Chatelier Principle
IV	Solutions and Colligative Properties	• The students are able to know about the Raoult's Law and Henry's law • The students are able to know about the Colligative properties
V	LAB	• The students are able to know about the enthalpy of hydration of copper sulphate • The students are able to know about the determination of heat capacity • The students are able to know about the calculation of the enthalpy of ionization

Paper Title:- Chemistry-2

Paper Code:- GE-2/DSC-2B

Unit	Name of the Topic	Course Outcomes
I	Chemical Energetic	• The students are able to know about the calculations of bond energy, bond dissociation energy • The students are able to know about the variation of enthalpy
II	Chemical Equilibrium	• The students are able to know about the free energy change • The students are able to know about the Le Chateliar Principle
III	Ionic Equilibrium	• The students are able to know about the degree of ionization • The students are able to know about the ionic

		product of water • The students are able to know about the common ion effect
IV	Aromatic Hydrocarbon	• The students are able to know about the reactions of aromatic hydrocarbons
V	Alkyl and Aryl Halides	• The students are able to know about the reaction of alkyl halides • The students are able to know about the reactions of aryl halides
VI	Alcohol, Phenol and Ethers	• The students are able to know about the preparation and reactions of alcohols • The students are able to know about the preparation and reactions of phenols • The students are able to know about the preparation and reactions of ethers
VII	LAB	• The students are able to know about the determination of enthalpy of ionization • The students are able to know about the determination of enthalpy of hydration • The students able to know about the preparation of buffer solutions • The students are able to know about the preparation and re-crystallisation of organic compounds • The students are able to know about the solubility

SEMESTER-III

Paper Title:- INORGANIC CHEMISTRY-II

Paper Code:- CC 5

Unit	Name of the Topic	Course Outcomes
I	General Principles of Metallurgy	• The students are able to know about the process of refining • The students are able to know the purification of metals
II	Acids and Bases	• The students are able to know about the concepts of acids and bases • The students are able to know about the hard and soft acids and bases
III	Chemistry of s and p block Elements	• The students are able to know about the relative stability of different oxidation states • The students are able to know about the compounds formed by p block elements.
IV	Noble Gases	• The students are able to know about the occurrence and uses of noble gases • The students are able to know about the

		compounds formed by noble gases
V	Inorganic Polymers	• The students are able to know about the types of inorganic polymers. • The student sare able to know about the structure and application of inorganic polymers
VI	LAB	• The students are able to know about the estimation of Cu(II) and $K_2Cr_2O_7$ using sodium thiosulphate • The students are able to know about the estimation of available chlorine in bleaching powder iodometrically • The students are able to know about the inorganic preparation

Paper Title:- Organic Chemistry

Paper Code:- CC 6

Unit	Name of the Topic	Course Outcomes
I	Chemistry of Halogenated Hydrocarbons	• The students are able to know about the methods of preparation of alkyl halides and their nucleophilic substitution reactions. • The students are able to know about the preparation of aryl halides and their substitution reactions.
II	Alcohols, Phenols, Ethers and Epoxides	• The students are able to know about preparation, properties and relative reactivity of alcohols • The students are able to know about preparation, properties and reactions of phenols • The students are able to know preparation and reactions with acids.
LII	Carbonyl Compounds	• The students are able to know about structure, reactivity and preparation of carbonyl compounds • The students are able to know about different reactions of carbonyl compounds.
IV	Carboxylic Acids and their Derivatives	• The students are able to know about preparation, properties and reactions of carboxylic acids. • The students are able to know about preparation and reactions of acid chlorides, anhydrides, esters amides etc.
V	Sulphur Containing Compounds	• The students are able to know about preparation and reactions ofthiols, thioethers and sulphonic acids
VI	LAB	• The students are able to know about the functional group test for alcohols, phenols, carbonyl and carboxylic acids • The students are able to know about organic preparations.

Paper Title:- Physical Chemistry-III

Paper Code:- CC 7

Unit	Name of the Topic	Course Outcomes
I	Phase Equilibrium	• The students are able to know about Phases, components and degrees of freedom of a system • The students are able to know about phase diagram • The students are able to know about binary solutions
II	Chemical Kinetics	• The students are able to know about order, molecularity, rate law etc. • The students are able to know about opposing reactions, parallel reactions, consecutive reactions and chain reactions • The students are able to know about temperature dependence on reaction rate.
LII	Catalysis	• The students are able to know about catalysis • The students are able to know about Enzyme catalysis
IV	Surface Chemistry	• The students are able to know about physical adsorption and chemical adsorption • The students are able to know about adsorption isotherm
V	LAB	• The students are able to know about determination of critical solution temperature and composition of phenol water system • The students are able to know about construction of phase diagram • The students are able to know about kinetics • The students are able to know about verification of Freundlich and Langmuir isotherm for adsorption of acetic acid on activated charcoal.

Paper Title:- CHEMISTRY-3

Paper Code:- GE/DSC-2C

Unit	Name of the Topic	Course OutComes
I	Solutions	• The students are able to know about ideal solutions, Raoults law etc. • The students are able to know about non-ideal solutions and derivation from ideal beahaviour
II	Phase Equilibrium	• The students are able to know about phase, components and degrees of freedom of a system
III	Conductance	• The students are able to know about conductivity, equivalent and molar conductivity • The students are able to know about Kohlrausch law of independent migration of ions • The students are able to know about ionic product

		of water, hydrolysis constant
IV	Electrochemistry	• The students are able to know about Nernst equation • The students are able to know about hydrogen electrode
V	Carboxylic acid and their derivatives	• The students are able to know about preparation and reactions of carboxylic acids • The students are able to know about preparation of acid chlorides, anhydrides esters etc.
VI	Amines and diazonium salts	• The students are able to know about preparation and reactions of amines • The students are able to know about preparation and reactions of diazonium salts
VII	Molecules of life	• The students are able to know about preparation of amino acids. • The students are able to know about 1°, 2°and quarternary structure of proteins
VIII	Carbohydrates	• The students are able to know about glucose and fructose • The students are able to know about mutarotation
IX	Enzymes	• The students are able to know about enzyme action, enzyme inhibitors and their importance
X	Nucleic Acids	• The students are able to know about DNA and RNA
XI	Lipids	• The students are able to know about oils and fats
XII	Concept of Energy in Biosynthesis	• The students are able to know about calorific value of food • The students are able to know about caloric content of carbohydrates, proteins and fats
XIII	LAB	• The students are able to know about determination of cell constant • The students are able to know about conductometric titration • The students are able to know about determination of critical solubility temperature • The students are able to know about potentiometric titration • The students are able to know about the separation of amino acids by paper chromatography • The students are able to know about the differentiation of reducing and non-reducing sugars • The students are able to know about systematic group analysis of organic compounds.

Paper Title:- Basic Analytical Chemistry

Paper Code:- SEC-I

Unit	Name of the Topic	Course Outcomes
I	Introduction	• The students are able to know about accuracy and precision

		• The students are able to know about errors • The students are able to know about significant figures
II	Analysis of Soil	• The students are able to know about determination of pH of soil samples • The students are able to know about estimation of calcium and magnesium from soil samples
III	Analysis of Water	• The students are able to know about determination of pH, acidity and alkalinity of soil samples • The students are able to know about determination of dissolved oxygen of water samples
IV	Analysis of Food Products	• The students are able to know about the nutritional value of food • The students are able to know about the identification of adulterants in common food items
V	Chromatography	• The students are able to know about definition of chromatography • The students are able to know about the separation of mixtures by paper chromatography
VI	Ion Exchange	• The students are able to know about determination of ion exchange capacity of anion/cation exchange resins
VII	Analysis of Cosmetics	• The students are able to know about analysis of deodorants and antiperspirants • The students are able to know about the constituents of Talcum powder

HOD, Chemistry
Gossaigaon College, Gossaigaon

SEMESTER-IV

Paper Title:- Inorganic Chemistry-III

Paper Code:- CC 8

Unit	Name of the Topic	Course Outcomes
I	Coordination Chemistry	• The students are able to know about Werner's theory, valence bond theory and crystal field theory • The students are able to know about ligands, chelate effects etc.
II	Transition Element	• The students are able to know about the color, variable valency, magnetic and catalytic properties • The students are able to know about various oxidation states
III	Lanthanoids and Actinoids	• The students areable to know about electronic configuration, oxidation state, color, magnetic properties, lanthanoid contraction etc.

IV	Bio-inorganic Chemistry	• The students are able to know about Na/K pump • The students are able to know about toxicity of metals • The students are able to know about deficiency of some trace metals
V	LAB	• The students are able to know about the estimation of Ni by using DMG • The students are able to know about estimation of copper by using CuSCN • The students are able to know about estimation of iron as Fe_2O_3 by precipitating iron as Fe(OH) • The students are able to know about preparation of inorganic preparations • The students are able to know about chromatographic separation

Paper Title: Organic Chemistry-III

Paper Code:- CC 9

Unit	Name of the Topic	Course Outcomes
I	Nitrogen containing functional groups	• The students are able to know about preparation and reactions of nitro compounds • The students are able to know about basicity and properties of nitro compounds
II	Poly nuclear Hydrocarbons	• The students are able to know about preparation and structure of poly nuclear compounds • The students are able to know about reactions of poly nuclear compounds
III	Heterocyclic Compounds	• The students are able to know about structure and synthesis of heterocyclic compounds • The students are able to know about various reactions of various hetero cyclic compounds
IV	Alkaloids	• The students are able to know about occurrence and isolation of alkaloids • The students are able to know about synthesis of alkaloids
V	Terpenes	• The students are able to know about occurrence, classification and synthesis of terpenes
VI	LAB	• The students are able to know about functional group tests for nitro, amine and amide groups • The students are able to know about qualitative analysis of unknown organic compounds • The students are able to know about detection of elements

Paper Title:- Physical Chemistry-IV

Paper Code:-CC 10

Unit	Name of the Topic	Course Outcomes
I	Conductance	• The students are able to know about conductivity, equivalent and molar conductivity • The students are able to know about Kohlrausch law of independent migration of ions • The students are able to know about ionic product of water, hydrolysis constant
II	Electrochemistry	• The students are able to know about Nernst equation • The students are able to know about hydrogen electrode
III	Electrical and Magnetic Properties of Atoms and Molecules	• The students are able to know about basic ideas of electrostatics • The students are able to know about diamagnetism, paramagnetism and magnetic susceptibility
IV	LAB	• The students are able to know about determination of cell constant • The students are able to know about conductometric titration • The students are able to know about determination of critical solubility temperature • The students are able to know about potentiometric titration

Paper Title:- Chemistry-4

Paper Code:- GE-4/DSC-2D

Unit	Name of the Topic	Course Outcomes
I	Transition Element	• The students are able to know about the color, variable valency, magnetic and catalytic properties • The students are able to know about various oxidation states
II	Coordination Chemistry	• The students are able to know about Werner's theory, valence bond theory and crystal field theory • The students are able to know about ligands, chelate effects etc.
III	Crystal Field Theory	• The students are able to know about crystal field effect, crystal field stabilisation energy • The students are able to know about Jahn Teller distortion.
IV	Kinetic theory of gases	• The students are able to know about the Kinetic gas equation • The students are able to know about the Velocities

		(Average, root mean square and most probable) viscosity of gaseous state. • The students are able to know about the collision frequecy
V	Liquids	• The students are able to know about the qualitative treatment of the structure of the liquid • The students are able to know about the surface tension
VI	solids	• The students are able to know about the elementary ideas of the symmetry • The students are able to know about the defects in crystals
VII	Chemical kinetics	• The students are able to know about order, molecularity, rate law etc. • The students are able to know about temperature dependence on reaction rate. • The students are able to know about zero order, first order and half life period
VIII	LAB	• The students are able to know about estimation of Ni gravimetrically • The students are able to know about estimation of Mg^{2+} by complexometric titration using EDTA • The students are able to know about estimation of Zn^{2+} by complexometric titration using EDTA • The students are able to know about determination of surface tension • The students are able to know about determination of viscosity

Paper Title:- Fuel Chemistry

Paper Code:- SEC-2

Unit	Name of the Topic	Course Outcomes
I	Coal	• The students are able to know about uses and composition of coal • The students are able to know about carbonization of coal • The students are able to know about coal gas, producer gas, water gas etc.
II	Petroleum and Petrochemical Industry	• The students are able to know about composition of crude petroleum • The students are able to know about fractional distillation, cracking , refining etc.
III	Lubricants	• The students are able to know about classification of lubricant • The students are able to know about lubricating oil, synthetic lubricants etc.

SEMESTER-5

Paper Title:- Organic Chemistry-IV

Paper Code:- CC-11

Unit	Name of the Topic	Course Outcomes
I	Nucleic Acids	• The students are able to know about DNA and RNA
II	Amino Acids, Peptides and Proteins	• The students are able to know about synthesis, properties and reactions of amino acids • The students are able to know about synthesis and structure of peptides
III	Enzymes	• The students are able to know about enzyme action, enzyme inhibitors and their importance
IV	Lipids	• The students are able to know about oils and fats
V	Concept of Energy in Biosynthesis	• The students are able to know about calorific value of food • The students are able to know about caloric content of carbohydrates, proteins and fats
VI	Pharmaceutical Compounds: Structure and Importance	• The students are able to know about synthesis of antipyretics, Analgesics and Antimalarial drugs • The students are able to know about treatment of antibiotics
VII	LAB	• The students are able to know about estimation of glycine • The students are able to know about estimation proteins • The students are able to know about saponification value of oils and fats • The students are able to know about determination of Iodine number of an oil and fats • The students are able to know about isolation and characterization ofDNA from oinion/ cauliflowers/ peas.

Paper Title: Physical Chemistry-V

Paper Code:- CC 12

Unit	Name of the Topic	Course Outcomes
I	Quantum Chemistry	• The students are able to know about quantum number • The students are able know about Schrodinger equation and its application to free particle. • The students are able to know about the simple harmonic oscillator • The students are able to know about the rigid rotator • The students are able to know about LCAO-MO

		treatment • The studentsare able to know about the comparison of LCAO-MO and VB treatment
II	Molecular Spectroscopy	• The students are able to know about Born-Oppenheimer approximation • The students are able to know about selection rule • The students are able to know about vibrational spectroscopy • The students are able to know about Raman spectroscopy • The students are able to know about electronic spectroscopy • The students are able to know about Nuclear Magnetic Resonance • The students are able to know about electronic spin resonance
III	Photochemistry	• The students are able to know about Beer Lambert's law • The students are able to know about laws of photochemistry • The students are able to know about quantum yield • The students are able to know about photochemical reactions
IV	LAB	• The students are able to know about UV spectroscopy • The students are able to know about visible spectroscopy • The students are able to know about verification of Lambert's Beer law and determine the concentration of $CuSO_4$/ $KMnO_4$/ $K_2Cr_2O_7$ • The students are able to know about determination of concentration of $KMnO_4$ and $K_2Cr_2O_7$ • The students are able to know about determination of dissociation constant of an indicator (phenolphthalein)

Paper Title:- Analytical Methods In Chemistry

Paper Code:- DSE-1

Unit	Name of the Topic	Course Outcomes
I	Qualitative and Quantitative aspects of analysis	• The students are able to know about errors, accuracy and precision • The students are able to know about F, Q and t tests
II	Optical methods of analysis	• The students are able to know about validity of Beer-Lambert law • The students are able to know about UV-Visible

		spectroscopy • The students are able to know about basic principle of quantitative analysis • The students are able to know about Infra red spectroscopy • The students are able to know about Flame Atomic Absorption • The students are able to know about Emission Spectrometry
III	Thermal methods of analysis	• The students are able to know about theory of thermogravimetry • The students are able to know about technique for quantitative estimation of Ca and Mg
IV	Electroanalytical methods	• The students are able to know about classification of electroanalytical methods • The students are able to know about basic principle of pH metric • The students are able to know about potentiometric and conductometrictitration
V	Seperation Techniques	• The students are able to know about principle, classification and efficiency of solvent extraction • The students are able to know about mechanism of separation • The students are able to know about classification, principle and efficiency of chromatography • The students are able to know about stereo isomeric separation and analysis.
VI	LAB	• The students are able to know about separation of mixture by paper chromatography • The students are able to know about determination of soil pH • The students are able to know about estimation of calcium, magnesium and phosphate of soil samples • The students are able to know about chemical oxygen demand • The students are able to know able to know about biological oxygen demand

Paper Title:- Instrumental Methods of Chemical Analysis

Paper Code:- DSE-2

Unit	Name of the Topic	Course Outcomes
I	Introduction to spectroscopic methods of analysis	• The students are able to know about classification of analytical methods • The students are able to know about treatment of analytical data
II	Molecular spectroscopy	• The students are able to know about infrared

		spectroscopy • The students are able to know about advantages of Fourier Transform (FTIR) • The students are able to know about UV-Visible / Near IR
III	Separation technique	• The students are able to know about principle, classification and efficiency of solvent extraction • The students are able to know about mechanism of separation • The students are able to know about classification, principle and efficiency of chromatography • The students are able to know about electric quadrupole
IV	Elemental Analysis	• The students are able to know about mass spectroscopy • The students are able to know about atomic spectroscopy • The students are able to know about detection of radiation
V	NMR spectroscopy	• The students are able to know about principle of NMR • The students are able to know about instrumentation • The students are able to know about chemical shift • The students are able to know about spin coupling
VI	Electroanalytical Method	• The students are able to know about potentiometry • The students are able to know about Voltametry
VII	Radiochemical Methods	• The students are able to know about Radiochemical Methods
VIII	X-ray analysis and electron spectroscopy	• The students are able to know about X-ray analysis and electron spectroscopy
IX	LAB	• The students are able to know about separation of carbohydrates by HPLC • The students are able to know about Potentiometric titration • The students are able to know about cyclic voltametry • The students are able to know about determination of mixture of Co and Ni

Paper Title:- Analytical Methods In Chemistry

Paper Code:- DSE-2A-1

Unit	Name of the Topic	Course Outcomes
I	Qualitative and Quantitative aspects of analysis	• The students are able to know about errors, accuracy and precision • The students are able to know about F, Q and t

		tests
II	Optical methods of analysis	• The students are able to know about validity of Beer-Lambert law • The students are able to know about UV-Visible spectroscopy • The students are able to know about basic principle of quantitative analysis • The students are able to know about Infra red spectroscopy • The students are able to know about Flame Atomic Absorption • The students are able to know about Emission Spectrometry
III	Thermal methods of analysis	• The students are able to know about theory of thermogravimetry • The students are able to know about technique for quantitative estimation of Ca and Mg
IV	Electroanalytical methods	• The students are able to know about classification of electro analytical methods • The students are able to know about basic principle of pH metric • The students are able to know about potentiometric and conductometric titration
V	Separation Techniques	• The students are able to know about principle, classification and efficiency of solvent extraction • The students are able to know about mechanism of separation • The students are able to know about classification, principle and efficiency of chromatography • The students are able to know about stereo isomeric separation and analysis.
VI	LAB	• The students are able to know about separation of mixture by paper chromatography • The students are able to know about determination of soil pH • The students are able to know about estimation of calcium, magnesium and phosphate of soil samples • The students are able to know about chemical oxygen demand • The students are able to know able to know about biological oxygen demand

Paper Title:- Chemical Technology & Society

Paper Code:- SEC-3

Unit	Name of the Topic	Course Outcomes
I	Chemical Technology	• The students are able to know about basic principle of distillation • The students are able to know about separation by

		adsorption • The students are able to know about clean technology
II	Society	• The students are able to know about technological issues from a chemical perspective • The students are able to know about energy from natural sources • The students are able to know about energy from fossil

Semester- VI

Paper Title:- Inorganic Chemistry-IV

Paper Code:- CC 13

Unit	Name of the Topic	Course Outcomes
I	Theoretical Principles in Qualitative Analysis	• The students are able to know about solubility product, common ion effect etc. • The students are able to know about interfering radicals and need to remove them after group-II
II	Organometallic Compounds	• The students are able to know about concept of haptacity of organic ligands • The students are able to know about metal carbonyls • The students are able to know about Zeise's salt • The students are able to know about Zeigler- Natta Catalyst.
LII	Reaction Kinetics and Mechanism	• The students are able to know about trans effect • The students are able to know about Kinetic stability • The students are able to know about kinetics of octahedral substitution
IV	Catalysis by Organometallic Compounds	• The students are able to know about alkene hydrogenation • The students are able to know about hydro fomylation • The students are able to know about wacker process • The students are able to know about synthetic gasoline • The students are able to know about metal carbonyl complexes.
V	LAB	• The students are able to know about verification of spectrochemical series • The students are able to know about preparation of acetylacetanato complexes of Cu^{2+}/ Fe^{3+} • The students are able to know about the synthesis of amine complexes of Ni(II) • The students are able to know about the qualitative

		semi micro analysis of mixtures containing 3 anions and 3 cations.

Paper Title:- Organic Chemistry-V

Paper Code:- CC 14

Unit	Name of the Topic	Course Outcomes
I	Organic Spectroscopy	• The students are able to know about UV spectroscopy • The students are able to know about IR spectroscopy • The students are able to know about NMR • The students are able to know about applications of IR, UV and NMR
II	Carbohydrates	• The students are able to know about occurrence and classification of carbohydrates • The students are able to know about Haworth Projections and conformational structures • The students are able to know about Killiani Fischer synthesis
III	Dyes	• The students are able to know about classification, colour and constitution of dyes • The students are able to know about synthesis and application of azo-dye
IV	Polymers	• The students are able to know about degree of polymerization • The students are able to know about preparation and application of plastics • The students are able to know about Fabrics, Rubbers, Vucanization Buna-s etc.
V	LAB	• The students are able to know about extraction of caffeine from tea leaves • The students are able to know preparation of sodium polyacrylate • The students are able to know about preparation of Urea formaldehyde • The students are able to know about analysis of carbohydrates • The students are able to know about preparation of methyl orange

Paper Title: Application of Computers In Chemistry

Paper Code: DSE-3

Unit	Name of the Topic	Course Outcomes
I	Basics	• The students are able to know about constants, variables, bits, bytes arithmetic expressions etc • The students are able to know about basic keywords and commands • The students are able to know about statistical analysis • The students are able to know about matrix addition and multiplication
II	Numerical methods	• The students are able to know about numerical methods for roots of equations • The students are able to know about quadratic formula • The students are able to know about numerical differentiation • The students are able to know about numerical integration • The students are able to know about elementary ideas of molecular mechanics and practical MO methods.
III	LAB	• The students are able to know about computer programs based on numerical methods for roots of equation • The students are able to know about computer programs based on numerical methods for numerical differentiation • The students are able to know about computer programs based on numerical methods for numerical integration • The students are able to know about computer programs based on numerical methods for matrix operations • The students are able to know about computer programs based on numerical methods for simple exercises using molecular visualization software

Paper Title:- Dissertation

Paper Code:- DSE-4

Students are able to know about how to do project work which will be given to them.

Paper Title:- Instrumental Methods of Chemical Analysis

Paper Code:- DSE-2A-2

Unit	Name of the Topic	Course Outcomes
I	Introduction to spectroscopic methods of analysis	• The students are able to know about classification of analytical methods • The students are able to know about treatment of analytical data
II	Molecular spectroscopy	• The students are able to know about infrared spectroscopy • The students are able to know about advantages of Fourier Transform (FTIR) • The students are able to know about UV-Visible / Near IR
III	Separation technique	• The students are able to know about principle, classification and efficiency of solvent extraction • The students are able to know about mechanism of separation • The students are able to know about classification, principle and efficiency of chromatography • The students are able to know about electric quadrupole
IV	Elemental Analysis	• The students are able to know about mass spectroscopy • The students are able to know about atomic spectroscopy • The students are able to know about detection of radiation
V	NMR spectroscopy	• The students are able to know about principle of NMR • The students are able to know about instrumentation • The students are able to know about chemical shift • The students are able to know about spin coupling
VI	Electroanalytical Method	• The students are able to know about potentiometry • The students are able to know about Voltametry
VII	Radiochemical Methods	• The students are able to know about Radiochemical Methods
VIII	X-ray analysis and electron spectroscopy	• The students are able to know about X-ray analysis and electron spectroscopy
IX	LAB	• The students are able to know about separation of carbohydrates by HPLC • The students are able to know about Potentiometric titration • The students are able to know about cyclic voltametry • The students are able to know about determination of mixture of Co and Ni

Paper Title:- Chemistry of Cosmetics & Perfumes

Paper Code:- SEC-4

Unit	Name of the Topic	Course Outcomes
I	Chemistry of Cosmetics	• The students are able to know about preparation of hair dye, hair spray, shampoo, face powder, lipsticks, talcum powder etc.
II	Chemistry of purfumes	• The students are able to know about preparation of sandalwood, rose oil, civetone, muscone
III	LAB	• The students are able to know about preparation of talcum powder • The students are able to know about preparation of shampoo • The students are able to know about preparation of enamels • The students are able to know about preparation of hair remover • The students are able to know about preparation of face cream • The students are able to know about preparation of nail polish and nail polish remover

HOD, Chemistry
Gossaigaon College, Gossaigaon

COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 1st
Paper Title : Understanding Geography
Paper Code : GGY- 101H (C-1)

Units	Name of the Topics	Course Outcomes
1	**Field of Geography**	• Nature and scope of Geography: Geography as a spatial science, present day relevance of Geography, Geography as interdisciplinary and integrated discipline. • Physical Geography and Human Geography: Nature, Contents and Interrelationship, Branches of Physical and Human Geography
2	**Fundamental Concepts in Geography**	• Relation of Geography with natural, social and earth sciences. • Spatial and temporal variation, spatial association, spatial interaction, spatial diffusion, spatial organization, human ecology, system concept, Man-Environment Relationship.
3	**Map and Geography**	• Importance of map in Geography, Types of map • Representation of interrelationship among the physical and cultural features from Topographical Maps and Interpretation.
4	**Practical**	• Elements of map reading and Interpretation of toposheet • Drawing of a representative part from topographical map, such as - Mountain, Plateau, Hills and Ridges, Piedmont, Floodplain, Valley (U-shaped and V-shaped), spurs and their characteristics.

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COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 1st
Paper Title : Geomorphology
Paper Code : GGY- 102H (C-2)

Units	Name of the Topics	Course Outcomes
1	**Basics of Geomorphology**	• Geomorphology: Definition, Nature and Scope, Evolution of Geomorphological Thoughts • Theories of origin and Evolution of Earth (Nebular hypothesis, Big Bang theory) • Earth: Chemical Composition and Interior Structure of the Earth, Geological Time scale; Era, period and epoch
2	**Earth Movements**	• Continental Drift Theory, Sea Floor Spreading, Isostasy, Plate Tectonics, Mountain building (Orogeny) L. Kober and Arthur Holmes and Epeirogenic movements. • Types of Fold and Fault Landforms, Earthquakes, Volcanoes and its location
3	**Geomorphic Processes**	• Weathering, Mass Wasting, Cycle of Erosion (Davis and Penck). • Evolution of Landforms (Erosional and Depositional): Fluvial, Aeolian, Glacial, Karst and Coastal. • Coral reefs and atolls formation
4	**Practical**	• Relief representation through serial profiles, superimposed profiles, composite profiles and Projected profiles, • Demarcation of basin and representation of basin relief through profiles, interpretation, • Mapping of the major crustal plates of the earth, Rock types and Characteristics • Preparation of Relative Relief Map using Smith's Method from Topographical Maps • Drawing and analysis of Average Slope Map by Wentworth's Method

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COURSE OUTCOMES

GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 2nd
Paper Title : Human Geography
Paper Code : GGY- 201H (C-3)

Units	Name of the Topics	Course Outcomes
1	**Nature, Scope and Development of Human Geography**	• Meaning, Scope, Branches and Approaches of Human Geography; • Development of Human Geography; Contributions of German and French Geographers; • Schools of Human Geography: ecology, landscape, locational, welfare and humanistic.
2	**Man and Environment Relationship**	• Elements of environment; physical and human environment; constraints and opportunities of the environment; • Impact of environment on man; Human adaptation to environment: Eskimo, Masai and Bushman; Mode of living and emerging problems in different environments: cold desert, mountain, plain, hot desert, coastal and riverine lands.
3	**Major Races**	• Evolution of man; Classification of races; Physical Characteristics of major racial (Caucasoid, Mongoloid and Negroid), • Diffusion of Major racial groups in the world; Primitive people of India: Naga and Bhil.
4	**Practical**	• Mapping of major racial groups in the world. • Mapping of major racial groups of India. • Mapping of linguistic and religious regions in the world. • Mapping of linguistic regions of India.

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COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 2nd
Paper Title : Basics of Cartography
Paper Code : GGY- 202H (C-4)

Units	Name of the Topics	Course Outcomes
1	**Field of Cartography**	• Nature and scope of Cartography, trend of development and present day relevance of Cartography in Geography, traditional and digital cartography. • The concept of shape, size, coordinate system, latitude and longitude, direction and distance of earth.
2	**Fundamental Concepts in Cartography**	• Concept of Scale and Application, Map Scale and Types, Scale factor, Conversion of scale, Concept of least count in Vernier Scale. • Concept of map, map Classification and Types, Thematic maps and their classification, Base map, Principles of Map Design and layout. • Mapping techniques and generalization principles
3	**Cartography and Data Representation**	• Concept of Geographical data representation through Chorochromatic, Choroschematic, Isopleths and Choropleth maps. • Concept of spot heights, Bench Mark, Triangulation stations, Contours and their use in Topographical Maps of India. • Cartogram and Diagrammatic Data Presentation by Line, Bar and Circle • Point, Line and Areal Data representation through Cartographic Overlays.
4	**Practical**	• Graphical Construction of Plain, Comparative and Diagonal Scale. • Construction of Thematic Maps with the help of physical and socio-economic geographical data. • Geographical data representation with the help of Bar diagram, pie chart and Block diagram • Preparation of Isopleth and Choropleth maps with the help of Geographical Data

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COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 3rd
Paper Title : Climatology
Paper Code : GGY- 301H (C-5)

Units	Name of the Topics	Course Outcomes
1	**Atmospheric Layer and Thermal Variation**	• Nature, Composition and Structure of Atmosphere, • Factors Controlling insolation, Heat Budget of Atmosphere, Distribution and processes of heating and cooling of the atmosphere; • Factors controlling Horizontal and Vertical Distribution of Temperature.
2	**Atmospheric Pressure, Air Circulation and Precipitation**	• Global atmospheric pressure belts and their oscillation; • Planetary Wind System, Forces affecting Movement of Air, Monsoon, JetStreams and index cycle; • Processes and forms of condensation; Mechanism, forms and types of precipitation; Air Masses: Origin, classification and characteristics; • Fronts: source regions, types and associated weather
3	**Weather Disturbances and Climatic Classification**	• Cyclones: Tropical and Temperate, Effects of ElNino and La Nina; • Climatic classification after Koppen, Climatic Classification after Thornthwaite: 1931 and 1948
4	**Practical**	• Construction of a schematic diagram of the vertical layers of earth's atmosphere and tabulation of compositional characteristics. • Drawing and interpretation of rainfall-temperature-humidity graph of tropical, subtropical and temperate regions/stations. • Study of weather condition depicted by Indian Weather maps and prediction of weather conditions for next 48 hours. • Calculation of average annual rainfall and variability of annual rainfall, and mapping and interpretation thereof.

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COURSE OUTCOMES

GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 3rd
Paper Title : Evolution of Geographical Thought
Paper Code : GGY- 302H (C-6)

Units	Name of the Topics	Course Outcomes
1	**Foundation of Geography**	• Pre-Modern - Early Origins of Geographical Thinking with reference to the Classical (Greek, Roman, Indian, Arab) and Medieval Philosophies (Varenius and Immanuel Kant). • Modern - Evolution of Geographical Thinking and Disciplinary Trends in Germany, France, Britain, United States of America.
2	**Dichotomies in Geography**	• Environmental Determinism and Possibilism, Systematic and Regional, Ideographic and Nomothetic
3	**Explanation in Geography**	• Quantitative Revolution and its Impact, Systems Approach Morphology of landscape, Areal differentiation, locational school; • Humanism, Behaviouralism, Marxism and Radicalism, Feminism, Post-modernism.
4	**Practical**	• Outline of the world map of Hecataeus, Anaximander, Eratosthenese, Ptolemy; • Dwipas of the world as known to the Indians and during Mahabharata times; • Outline of the world map of Mercator

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COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 3rd
Paper Title : Population and Settlement Geography
Paper Code : GGY- 303H (C-7)

Units	Name of the Topics	Course Outcomes
1	**Field of Population Geography**	• Meaning and scope of population geography; sources of population data. • Malthus theory of population growth; and Demographic Transition Model. • Components of population growth; factors influencing distribution and density of population; • Definition, types, and causes and consequences of migration.
2	**Population Characteristics and Population-Resource Relationship**	• Age-Sex composition; literacy and education; and work participation and occupational composition; • Concept of population-resource relationship with reference to optimum population, over population and under population
3	**Field of Settlement Geography**	• Meaning and scope of settlement geography; • Concept of hierarchy of settlements and Christaller's Central Place Theory; concept of dichotomy and continuum. • Factors influencing origin and growth of rural and urban settlements; • Morphology and functional characteristics of rural and urban settlements.
4	**Practical**	• Determination of Spatial Mean and Median Centres of Settlements and Standard Distance • Weighted Mean Centre of Population or any other attribute • Construction of population growth model and the distance decay model from the given datasets • Trend of world population growth, major population density zones in the world • Age-Sex pyramid • Mapping Settlement Types and Pattern

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COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 4th
Paper Title : Economic Geography
Paper Code : GGY- 401H (C-8)

Units	Name of the Topics	Course Outcomes
1	**Introduction to Economic Geography**	• Meaning and scope of economic geography, Approaches in economic geography: regional, systematic and sectoral. • Concept and classification of economic activity, Primary Activities: Subsistence and Commercial agriculture, forestry, fishing and mining; Secondary Activities: Manufacturing (Cotton Textile, Iron and Steel), Tertiary Activities: Transport, Trade and Services; role of tertiary activity in economic development of a country.
2	**Geography of Resource**	• Concept of resources and resource classification; Distribution of renewable and non renewable resources in global context: Forests, Water, Coal, Iron ore; Conservation of resources. • Factors Affecting location of Economic Activity with special reference to Agriculture (Von Thunen theory), Industry (Weber's theory and Losch theory).
3	**Geography of Economic Activity**	• Agriculture: physical and socio-economic factors influencing agricultural practice; types of agriculture; major food and cash crops, their distribution and production (Rice, wheat, Sugarcane, Tea, Cotton) • Industry: Factors of industrial location, classification of industries, distribution and production of iron and steel, textile, petro-chemicals. • Concept of Manufacturing Regions, Special Economic Zones and Technology Parks.
4	**Practical**	• Cartographic representation of economic data of India/N.E. India in spatio-temporal contexts : pie-graph, line graph, bar graph and choropleth mapping • Trend analysis of production, etc. of India/N.E. India using moving average method • Transport network analysis using connectivity indices (alpha, beta & gamma). • Traffic Flow Cartogram, crop combination analysis

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COURSE OUTCOMES

GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 4th
Paper Title : Geography of India
Paper Code : GGY- 402H (C-9)

Units	Name of the Topics	Course Outcomes
1	**Regional Basis of India**	• Locational entity of India, Strategic location of India, • Physiographic division of India, Drainage system, Climate, Soil, Natural Vegetation
2	**Social Basis of India**	• Population distribution, growth and Density of India • Distribution of population by race, caste, religion, language, tribes and their correlates
3	**Economic Basis of India**	• Agriculture: Problems of Indian Agriculture, Agricultural modernization and development in India and Agro-climatic regions of India. • Industry: Development of major industrial sectors in India, industrial backward regions of India and regionalization of Industries throughout the country. • Distribution and production pattern of major Industries (Iron and steel, cotton textile, petrochemicals, sugar, paper and cement industries), Industrial policies and industrial trade. • Transport: Roads and railways, air transport, water and pipe transport
4	**Practical**	• Mapping of Physiographic, climatic regions and Agricultural regions of India, • Mapping of major drainage system of India • Trend of population growth, population density and religious composition of India • Preparation of Age-Sex pyramid of population data of India • Distribution pattern of major industries of India.

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COURSE OUTCOMES

GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 4th
Paper Title : Advance Cartography
Paper Code : GGY- 403H (C-10)

Units	Name of the Topics	Course Outcomes
1	**Map Projection**	• Definition, need of Map Projection, Principles, Function and Classification of map projection, Choice of Map Projection; • Graphical Construction of Zenithal group of projection both polar and equatorial case, cylindrical group of projection, conical group of projection and conventional group of projection, their properties and uses.
2	**Surveying**	• Concept and Principles of Geodetic and Plane Surveying, Principles of triangulation • Principles and techniques of surveying by Plane Table (Radiation and Intersection Method), Prismatic Compass (Closed Traverse and Open Traverse), Dumpy Level (Profile) and Theodolite (Traversing)
3	**Data Representation Techniques**	• Principle of Enlargement and Reduction of Maps by Graphical and Instrumental Methods. • Importance, scope and purpose of Digital Planimeter, principles of working and application of the instrument; Measurement of area of a part of topographical map / drainage basin with the help of Digital Planimeter.
4	**Practical**	• Construction of graticules based on Mathematical derivation and calculation ; (a) Zenithal group (polar cases): Gnomonic, Stereographic, Orthographic, and Equal-area (b) Cylindrical group: Cylindrical equal area and Mercator's projection (c) Conical Group: Simple Conical Projection, Conical Projection with two standard parallels. (d) Conventional Group: Sinusoidal • Principles of Surveying (a) Plane table surveying (Radiation & Intersection methods) (b) Prismatic Compass and Theodolite Surveying (Open and Closed Traverse) (c) Dumpy Level (Profile) and Theodolite (Traversing and Profile)

Head

COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 5th
Paper Title : Regional Planning and Development
Paper Code : GGY- 501H (C-11)

Units	Name of the Topics	Course Outcomes
1	**Fundamentals**	• Definition of Region, Evolution and Types of Regional planning (Formal and Functional), Need for Regional Planning; Regionalism and Types of regional Planning. • Concept of Development, Sectoral Development and Regional Development, and development indicators.
2	**Models for Development**	• Choice of a Region for Planning, Characteristics of an Ideal Planning Region; Delineation of Planning Region; Regionalization of India for Planning (Agro Ecological Zones) • Theories and Models for Regional Planning: Growth Pole Model of Perroux; Growth Centre Model in Indian Context; Myrdal, Hirschman, Rostow and Friedmann; Village Cluster.
3	**Developmental Strategies**	• Regional Disparities, Global Pattern of Development, Inter-regional variations. • Changing Concept of Development, Concept of underdevelopment; Efficiency-Equity Debate • Regional Planning in India, Regional Approach to Planning in India's Five Year Plans Decentralization and Multi-Level Planning - State, District and Block level planning in India. • Planning regions of India; Case Studies of a River Valley Development Plan – Damodar Valley and National Capital Region Plan
4	**Practical**	• Measures of Disparity Calculation for Indicators of Development • Measures of level of development with the help of Z-Scores and PCA techniques. • Delineation of Industrially backward regions of India with choropleth mapping. • Regional mapping of developmental activities in India with special reference to Assam.

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COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 5th
Paper Title : **Remote Sensing and Geographic Information System**
Paper Code : GGY- 502H (C-12)

Units	Name of the Topics	Course Outcomes
1	**Fundamentals of Remote Sensing and GIS**	• Remote Sensing and GIS: Definition, Components and Principles, Electro Magnetic Radiation, Interaction with Atmosphere and Earth Surface • Remote Sensing, Platforms and Types, Global Positioning System (GPS) Principles and application • Aerial Photography: Types and Geometry of Aerial Photograph, Satellites (Landsat and IRS) and Sensors, Type of resolution.
2	**Geographic Information System**	• GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure • Image Processing (Digital and Manual) and Data Analysis: Pre-processing (Radiometric and Geometric Correction), Enhancement (Filtering); Classification (Supervised and Un-supervised), Geo-Referencing; Editing and Output. • Overlay Operations and its advantages
3	**Application of Remote Sensing and GIS**	• Elements of Image interpretation and application of Remote Sensing and GIS: Land use/ Land Cover, Urban Sprawl Analysis; Forests Monitoring, Watershed management, Disaster management, Environmental management, Planning, Engineering, Health and Decision making
4	**Practical**	• Geo-Referencing the map/Toposheet, Drawing base map from Satellite imagery/Toposheet, • Mapping point, line and polygon features, Land use/ Land Cover mapping (Supervised and Un- supervised), Isopleths, Choropleth and Chorochrometic mapping, Proportional mapping, • Relief analysis from DEM. Data collection from GPS and mapping.

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COURSE OUTCOMES

GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 5th
Paper Title : Soil and Biogeography Geography
Paper Code : GGY- 503H (DSE-1)

Units	Name of the Topics	Course Outcomes
1	**Nature and Scope of Soil Geography**	• Definition and Scope of Soil Geography, Soil Formation, Characteristics and Properties, Soil as life supporting system; • Soil profile (Soil horizon) – their characteristics and significance; Processes and factors of soil formation;
2	**Soil and Land Management**	• Physical and Chemical properties of soil: Soil texture, Structure and Moiture, Soil colour, pH value, Organic Matter and NPK. • Processes and Controlling factors of soil erosion, Various measures of soil conservation, • Principles of soil classification: Genetic School and USDA
3	**Concepts of Biogeography**	• Definition and scope of biogeography, Concept and Components of Biosphere, vertical and horizontal limits of biosphere; • Concept of Ecology and Ecosystem, Types of Ecosystem, Trophic Structure, Food Chain and Food Web, Energy flow in Ecosystem. • Ecological Aspects of Biogeography: Bio-geo-chemical cycles, concepts of biomes, Ecotone and Community. • Concept of biodiversity, its types and conservational issues, Nature and distribution of biodiversity in N.E. India and Assam; Man as an agent of environmental/ecological change
4	**Practical**	• Construction and interpretation of soil profile with the data derived from the field (college campus/ river site/ foot hill, etc.) • Drawing and interpretation of soil map of India/North East India • Mapping of vegetation of India/north east India, Representation of soil-vegetation relationship along selected cross-section of India and North-East India Biogeographic regions of the world • Mapping of the national parks and sanctuaries of India with the major species therein. • Showing location of the megalopolis, and metropolitan and port cities of the world

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COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 5th
Paper Title : Urban and Cultural Geography
Paper Code : GGY- 504H (DSE-2)

Units	Name of the Topics	Course Outcomes
1	**Urban Geography**	• Introduction, nature and scope, Patterns of Urbanization in developed and developing countries, Urban Morphology, Satellite towns, • Functional classification of cities: Quantitative and Qualitative Methods
2	**Urban Issues**	• Problems of housing, slums, civic amenities (water and transport), • Case studies of Delhi, Mumbai, Kolkata, Chennai Chandigarhand Guwahati with reference to Land use and Urbanization, Urban sprawl, Sustainable development of cities.
3	**Cultural Geography**	• Introduction, Nature and Scope of Cultural Geography, • Concept of Society, Culture, Race, Ethnicity and different facets of culture, • Historical perspective of Indian societies; racial, linguistic and ethnic diversity, • Major Tribes of India and their problems
4	**Practical**	• Sphere of Urban Influence • Major Tribal area of India • Linguistic Region of India • Cultural Region of the world

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COURSE OUTCOMES

GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 6th
Paper Title : World Regional Geography
Paper Code : GGY- 601H (C-13)

Units	Name of the Topics	Course Outcomes
1	**The World Geography in regional context**	• An overview Brief regional account of the continents: Physiography, Climate, Natural Vegetation, • Population growth, Density and distribution, major population density zones.
2	**Profile of developed and developing nations**	• Developed (Canada, U.S.A., Western Europe, Russia, Japan, Australia and New Zealand) and developing (S.E. Asia, S.W. Asia, China, Southern Africa and Brazil) nations: Demographic, Social and Economic Profile.
3	**Regional Geography of Asia**	• Regional Geography of Asia: Location, Physiography, Climate, Population growth and distribution, agriculture and industries.
4	**Practical on World Regional Geography**	**it 3: Practical on World Regional Geography (10 class)** • Mapping major mountain ranges of the world • Mapping major river system of the world • Showing trend of world population growth by line/bar graph • Mapping and interpretation of world population density • Demarcation of developed, developing and underdeveloped countries on a world map based onappropriate social and economic indicators • Showing the distribution of major rivers and lakes on a map of Asia

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COURSE OUTCOMES
GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 6th
Paper Title : Dissertation
Paper Code : GGY- 602H (C-14)

Units	Name of the Topics	Course Outcomes
1		
2		
3		
4		

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COURSE OUTCOMES

GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 6th
Paper Title : Social and Political Geography
Paper Code : GGY- 603H (DSE-3)

Units	Name of the Topics	Course Outcomes
1	**Situating Social Geography**	• Origin, Nature and Scope of Social Geography, • Concept of Social Space: First, Second and third Space, • Social Categories: Defining Caste, Class, Religion, Ethnicity and Gender and their Spatial Underpinnings; • Concepts of Social differentiation and integration and social change.
2	**Political Geography and Geopolitics**	• Definition and Scope of Political Geography, Geopolitics; • State, Nation and Nation State – Concept of Nation, State and Nation State, Attributes of State –Frontiers, Borders, Shape, Size, Territory and Sovereignty, Nation Building, Concepts of Lebensraum, Heartland and Rimland, Colonialism, desalinization and Neocolonialism,
3	**Geography of Welfare and Well-being**	• Social Geographies of Inclusion and Exclusion, Slums, Gated Communities, Communal Conflicts and Crime. • Political Geography of Resource Conflicts – Water Sharing Disputes, Disputes and Conflicts Related to Forest Rights and Minerals, issues of land locked states in Asia and Africa.
4	**Practical**	• Mapping Frontiers, buffer zone, boundaries and border zones; boundary problems with reference to India and North East India • Showing distribution of displaced people of India by using cartograms (with reference to Dams) and Special Economic Zones.

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COURSE OUTCOMES

GOSSAIGAON COLLEGE, GOSSAIGAON

Subject : Geography
Semester : 6th
Paper Title : Geography of North East India
Paper Code : GGY- 604H (DSE-4)

Units	Name of the Topics	Course Outcomes
1	**North East India and Assam**	• Locational significance of North East India and Assam • Physical characteristics: Physiography, drainage, climate, soil and natural vegetation of North East India with special reference to Assam
2	**Economic Traits and Development**	• Agriculture and Industries of North East India • Agriculture and industrial characteristics (Brahmaputra valley, the Barak Valley, Hill region) • Transport and communication system • Disparity in socio-economic development; socio-economic problems
3	**Population Dynamics and Associated Correlates**	• Population characteristics: peopling ,growth, distribution and density, age sex composition, rural-urban composition and religious composition • Regions of Assam and their population • Tourism and its potentiality in Assam • Biodiversity and its conservation issues • Look-East Policy and North East India
4	**Practical**	• Mapping of Physical Features of North East India • Locating of Major and Minor Industries of North East India • Mapping of Biodiversity region of North East India • Preparation of Tourist Potentiality map of North East India

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COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: I
Category: Honours
Paper Title: Introduction to History
Paper Code: C1

Unit	Name of the Topic	Course Outcomes
I	**Meaning and scope of history:** (a) Sources of history (b) Collection and selection of data (c) Objectivity in history	• **The students are introduced to the meaning, nature and scope of History as a discipline in social sciences.** • **The students are able to understand the different sources of History and their application in the historical process.** • **The students are acquainted with the various theories and techniques, methods and approaches in historical research. The students are able to acquire knowledge on scientific method, the historical method; objectivity and truth.**
II	**Types of History** (a) Economic history (b) Social history (c) Political history (d) Intellectual history (e) Diplomatic history (f) Military history (g) Micro history (h) Total history	• **The students are able to explore and analyse the different types of history.** • **The students are able to situate and relate to the origin and development of events through time in different aspects and areas of society.**
III	**History and other disciplines:** (a) Archaeology (b) Geography (c) Sociology (d) Economics (e) Anthropology (f) Philosophy (g) Political Science	• **The students are able to describe history's relation with other disciplines of Social sciences, literature, humanities and other Sciences.** • **The students are able to identify how history is connected to all disciplines and all things human.**
IV	**Tradition of history writing:** (a) Greco-Roman Tradition (b) Chinese Tradition (c) Early Indian Historiography (d) Medieval Indian Historiography (e) Modern Indian Historiography	• **The students are able to acquire knowledge about the different traditions of writing history through the ages.** • **The students are able to acknowledge and reflect on the writing techniques of the pioneers of history, understand their crafts and thier contribution and impact towards the discipline for ages to come.** • **The students are able to explore and analyse the origin and development of different trends in historiography in different places across the globe.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: I
Category: Honours
Paper Title: History of India (Earliest to 300 A.D.)
Paper Code: C2

Unit	Name of the Topic	Course Outcomes
I	**Introduction:** i) Geographical background ii) Sources: Archaeology Literature (indigenous and foreign) iii) Pre-History Phases: a) Paleolithic, b) Mesolithic and c) Neolithic	• **The students are introduced to the various sources for reconstructing the history of ancient period in India in the form of literary as well as archaeological records.** • **The students are able to acquire knowledge about the various stages of evolution of human cultures and transformation of primitive societies and technology since their origin in time, spanning from the times before recorded history untill the adoption of agricultural economy and settled life.**
II	**Polity, Society, Economy and Religion:** a) Harappan Culture and b) Vedic Culture	• **The students are able to explain and reconstruct the history of the Indus Valley Civilization, the phases of Harrappan culture and its society, livelihood, economic lifestyle and regious beliefs and its discovery and interpretation throughout history.** • **The students are able to gain an insight on the Rig-Vedic age, the coming of the Aryans, their settlements, culture, economy and religious beliefs.**
III	**Mauryan Empire:** Economy, Society and Religion and Art	• **The students are able to explain and reconstruct the establishment of the rise of the most powerful kingdom in northern India, the Mauryan Empire, their administration and legacy, societal structure, economy and developments in art and religion.**
IV	**Post-Mauryan Invasions and their impacts.** i) Bactrian Greeks, Scytho-Parthians, Kushanas ii) Economic development- Land grants, Urban growth, Crafts, Trade and Trade Routes, Coins and Currency, Indo-Roman Trade. iii) Sangam Age: Literature, Society, Economy	• **The students are able to explore and analyse the wave of foreign invasions in ancient India, the designs and motives of the invasions and their impacts on the Indian polity and society.** • **The students are able to acquire knowledge about the developments in trade and commerce, the Silk road, introduction of land grants and gold currency under the Kushanas.** • **The students are introduced to the prosperous Sangam Age, the socio-economic designs and developments in literature in Southern India.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: I
Category: Regular
Paper Title: History of India (Earliest to 1206A.D.)
Paper Code: GE-1

Unit	Name of the Topic	Course Outcomes
I	**Sources of Ancient Indian History:** Literary, Archaeological and Foreign, Pre-History and Proto History: Paleolithic, Mesolithic, Neolithic, Chalcolithic and Indus Valley Civilization.	• **The students are introduced to the various sources for reconstructing the history of ancient period in India in the form of literary as well as archaeological records.** • **The students are able to acquire knowledge about the various stages of evolution of human cultures and the belief systems in the Indian subcontinent since their origin in time, spanning from the earliest times unto the Indus Valley civilization.**
II	**Rig Vedic ages and Post Vedic ages upto 6th Century B.C:** The Aryans, Janapadas, Mahajanapadas, Budhism and Jainism	• **The students are able to gain an insight on the Rig-Vedic age, the coming of the Aryans, their settlements, culture, economy and religious beliefs.** • **The students are able to expain the formation of big city states in Early India, their origin, geography, functions and socio-political advances across India.** • **The students are able to acquire knowledge on develo-pments and spread of Buddhist and Jain cultures and their influence in civilization.**
III	**Territorial States and Foreign Invasions:** The Mauryas, The Satavahanas and the Gupta etc. Iranian and Macedonian Invasions	• **The students are able to explain and reconstruct the establishment of powerful kingdoms such as the Mauryas and the Guptas, their administration and legacy.** • **The students are able to explore and analyse the wave of foreign invasions in ancient India including the Iranians and the Macedonians.**
IV	**Post Gupta Period:** Harsha, Cholas, Pallavas, Chalukyas, Rajputs, Varmana dynasty, Salasthambha dynasty, Pala dynasty, etc.,	• **The students are able to acquire knowledge about the period after the golden age, the evolution in political structures and developments in economic fields and the rise of regional kingdoms in North as well as in the Southern part of Indian Subcontinent.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: I
Category: Regular
Paper Title: History of India (Earliest to 1206A.D.)
Paper Code: DSC-1A

Unit	Name of the Topic	Course Outcomes
I	**Sources of Ancient Indian History:** Literary, Archaeological and Foreign, Pre-History and Proto History: Palcolithic, Mesolithic, Neolithic, Chalcolithic and Indus Valley Civilization.	• **The students are introduced to the various sources for reconstructing the history of ancient period in India in the form of literary as well as archaeological records.** • **The students are able to acquire knowledge about the various stages of evolution of human cultures and the belief systems in the Indian subcontinent since their origin in time, spanning from the earliest times unto the Indus Valley civilization.**
II	**Rig Vedic ages and Post Vedic ages upto 6th Century B.C:** The Aryans, Janapadas, Mahajanapadas, Budhism and Jainism	• **The students are able to gain an insight on the Rig-Vedic age, the coming of the Aryans, their settlements, culture, economy and religious beliefs.** • **The students are able to expain the formation of big city states in Early India, their origin, geography, functions and socio-political advances across India.** • **The students are able to acquire knowledge on develo-pments and spread of Buddhist and Jain cultures and their influence in civilization.**
III	**Territorial States and Foreign Invasions:** The Mauryas, The Satavahanas and the Gupta etc. Iranian and Macedonian Invasions	• **The students are able to explain and reconstruct the establishment of powerful kingdoms such as the Mauryas and the Guptas, their administration and legacy.** • **The students are able to explore and analyse the wave of foreign invasions in ancient India including the Iranians and the Macedonians.**
IV	**Post Gupta Period:** Harsha, Cholas, Pallavas, Chalukyas, Rajputs, Varmana dynasty, Salasthambha dynasty, Pala dynasty, etc.,	• **The students are able to acquire knowledge about the period after the golden age, the evolution in political structures and developments in economic fields and the rise of regional kingdoms in North as well as in the Southern part of Indian Subcontinent.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: II
Category: Honours
Paper Title: History of India (300-1206) A.D
Paper Code: C-3

Unit	Name of the Topic	Course Outcomes
I	**Age of the Guptas:** i) Emergence and consolidation of Gupta power ii) State and administrative institutions iii) Socio-economic changes, Agrarian structure, Trade and commerce. iv) Cultural development: Art and Architecture; and Literature	• **The students are able to explain and reconstruct the establishment of powerful kingdom of the Guptas, their administration and legacy.** • **The students are able to acquire knowledge about the various developments in Gupta society, economy, trade and culture.** • **The students are able to acknowledge the classical art and architecture and literature of the Golden Age.**
II	**Post Gupta period:** i) Harshavardhana ii) Polity, Society and Economy	• **The students are able to explore and analyse the period after the golden age, the might of Harshavardhana,ruler of Kanauj.** • **The students are able to acquire knowledge on the society, economy and the policies of king Harshavardhana and his administration.**
III	**Rise of Regional Powers:** i) Pratiharas ii) Rastrakutas iii) Cholas	• **The students are able to explain and reconstruct the evolution in political structures and economic developments and the rise of regional kingdoms in North as well as in the Southern part of Indian Subcontinent.**
IV	**Foreign Invasions:** i) Hunas ii) Arabs iii) Ghaznavids & Ghorids	• **The students are able to acquire knowledge about the motifs and designs of the series of foreign invasions in India by the Hunas in 5-6th century, The Arab conquest of the 7th century followed by the Afghans and the Turkish estabishment in Indian subcontinent.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: II
Category: Honours
Paper Title: History of India (Earliest to 1206A.D.)
Paper Code: C-4

Unit	Name of the Topic	Course Outcomes
I	**Transition from feudalism to capitalism:** Concept of feudalism and capitalism; crisis of feudalism, emergence of mercantilism and early phase of colonialism	• **The students are introduced to the socio-political and economic status in 18th century Europe. The European feudal society, its crisis.** • **The students are able to understand the transition and development of Capitalism across the European continent.** • **The students are able to acquire knowledge on economic nationalism, the emerging mercantile economy and the concept of Colonialism.**
II	**Renaissance and Reformations in Europe:** Origin, impact and significance	• **The students are able to acquire knowledge about the Enlightenment era, the achievements of the Renaissance period in 15th-16th century Europe and its significance in history.** • **The students are able to explore and analyse the different developments throughout Europe in terms of revolution and reforms in social, religious and political grounds, the Reformation movement and its impact.**
III	**Industrial Revolution:** Changes in society, politics, economy, religion and others.	• **The students are able to explore and analyse the development of capitalism in society and economy and how it caused rapid industrialization across Europe.** • **The students are able to identify with the Industrial Revolution of the 18th century, development of science and technology and its impact on society.**
IV	**Emergence of European States:** Spain, France, England and Russia.	• **The students are able to acquire knowledge about the processes of evolution of modern state system in terms of power, reforms and socio-political and economic changes in Europe.** • **The students are able to acknowledge and reflect on the emergence of powerful states including Spain, France, England and Russia.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: II
Category: Regular
Paper Title: History of India (1206-1757) A.D.
Paper Code: GE-2

Unit	Name of the Topic	Course Outcomes
I	Sources of Medieval India	• The students are introduced to the various sources for reconstructing the history of medieval period in India in the form of literary as well as archaeological records. • The students are able to understand the legacy of the medieval society, its rulers and chroniclers.
II	Foundation, Consolidation and downfall of the Delhi Sultanates	• The students are able to acquire knowledge about the advent and advances of the Islamic rulers in the Indian subcontinent; their motives and designs. • The students are able to explore and analyse the dynastic establishment and foudation of the Delhi Sultans in medieval india, their admistration, legacy and downfall.
III	Foundation, Consolidation and downfall of the Mughals	• The students are able to explore and analyse the dynastic establishment and foudation of the Mughal Empire in medieval india, their admistration, legacy and downfall.
IV	Rise of the Maratha: Marathas under Shivaji	• The students are able to acquire knowledge about the rise of Maratha power, their nationalism and their influence over large portion of Indian Subcontinent in the 17th century. • The students are able to acknowledge and reflect on the might of the Maratha kingdom under Chattrapati Shivaji Maharaj and his administration.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: II
Category: Regular
Paper Title: History of India (1206-1757 A.D.)
Paper Code: DSC-1B

Unit	Name of the Topic	Course Outcomes
I	**(a) Sources of Medieval India** **(b) Foundation and Consolidation of the Sultanate:** Slave Dynasty, Khilji Dynasty, Tughlak Dynasty, Sayyad Dynasty, Lodhi Dynasty	• **The students are introduced to the various sources for reconstructing the history of medieval period in India in the form of literary as well as archaeological records.** • **The students are able to explore and analyse the dynastic establishment and foudation of the Delhi Sultans in medieval india, their admistration and legacy throughout dynasties.**
II	**Fragmentation of the Sultanate, Rise of Provincial Kingdoms and Rise of Afghans:** Bahmani, Vijaynagar etc. and Administration of Sher Shah	• **The students are able to acquire knowledge about the downfall of the Delhi sultanate and the emergence of the powerful provincial kingdoms in the north as well as southern part of Indian sub-continent.** • **The students are able to acknowledge the might and achievements of Sher Shah Suri, his policies and administration.**
III	**India under the Mughals:** Akbar, Jahangir, Shahjahan, and Aurangzeb	• **The students are able to explore and analyse the dynastic establishment and foudation of the Mughal Empire in medieval india, their admistration, legacy and downfall.**
IV	**Rise of the Maratha:** Marathas under Shivaji, Administration	• **The students are able to acquire knowledge about the rise of Maratha power, their nationalism and their influence over large portion of Indian Subcontinent in the 17th century.** • **The students are able to acknowledge and reflect on the might of the Maratha kingdom under Chattrapati Shivaji Maharaj and his administration.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: III
Category: Honours
Paper Title: History of India (1206-1526) A.D.
Paper Code: C-5

Unit	Name of the Topic	Course Outcomes
I	**Survey of sources:** Persian Tarikh tradition; vernacular histories; epigraphy	• **The students are introduced to the various sources for reconstructing the history of medieval period in India in the form of literary as well as archaeological records, Persian traditions and vernacular literary records.**
II	**Foundation and Consolidation of the Delhi Sultanates:** a. Causes of the success of the Turks b. Expansion under the Khaljis: Conquest, Administration and Economic reforms. c. Tughluqs: Muhammad-bin Tughluq and Firoze Shah Tughluq.	• **The students are able to explore and analyse the dynastic establishment and foudation of the Delhi Sultans in medieval india, their admistration and legacy throughout dynasties.**
III	**Fragmentation of the Sultanate and Rise of Provincial Kingdoms:** a. Bahmani and Vijaynagar Kingdoms b. Kingdoms of Gujrat and Bengal c. Rise of Afghans: Sher Shah	• **The students are able to acquire knowledge about the downfall of the Delhi sultanate and the emergence of the powerful provincial kingdoms in the north as well as southern part of Indian sub-continent.** • **The students are able to acknowledge the might and achievements of Sher Shah Suri, his policies and administration.**
IV	**State, Society and Economy:** a. Central and Military organization, *Iqta*, b. Bhakti and Sufi movements c. Agriculture, Trade and Commerce	• **The students are able to acquire knowledge about the state system, military power and the land revenue system under Islamic dynasties in India.** • **The students are able to acknowledge the origin and developments of the Bhakti and Sufi movement and its impact on both Hinduism and Islam in 12th century India.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: III
Category: Honours
Paper Title: History of Modern Europe I
Paper Code: C-6

Unit	Name of the Topic	Course Outcomes
I	**The French Revolution and Europe:** a. Crisis of Ancien Regime. b. Social, Political and Intellectual currents. c. Emergence of social classes d. Napoleonic Empire: Europe.	• **The students are introduced to the socio-political and economic status in 18th century Europe. The European feudal society, its crisis.** • **The students are able to understand the origin and development of the France Revolution, its causes and effects. The contribution of the Intellectual groups and the emergence of different social groups.** • **The students are able to acquire knowledge on Napoleon's rise to power and his conquests for control across the European continent and beyond, his downfall.**
II	**Restoration and Revolution: 1815-1848** a. Forces of conservatism & restoration of old hierarchies. b. Social, Political and intellectual currents. c. July Revolution of 1830 and February Revolution of 1848.	• **The students are able to acquire knowledge about the situation in Europe after Napoleon, restoration, border restructuring and the Congress of Vienna.** • **The students are able to explore and analyse the different developments throughout Europe in terms of nationalism and revolution and reforms in social, religious and political grounds between 1815-1848.**
III	**Socio-Economic Transformation (Late 18th century to 1914):** a. Process of capitalism in industry and agriculture: case studies in Britain, France, German States and Russia. b. Evolution and Differentiation of social classes: Bourgeoisie, Proletariat, land owning classes and peasantry. c. Changing trends in demography and urban patterns. d. Family, gender and process of industrialization.	• **The students are able to explore and analyse the development of capitalism in society and economy throughout Europe in the 18th century.** • **The students are able to identify with the role of different social classes in the capitalist economy and the emergence of new social class.** • **The students are aquainted with the mobilty of different social groups, urbanization, demographic changes and rapid industrialization.**
IV	**Growth of Nationalism and the Remaking of States in the 19th and 20th Centuries:** a. Intellectual currents, popular movements and the formation of National identities in Germany, Italy, Ireland and the Balkans. b. Specificities of economic development, political and administrative Reorganization–Italy, Germany	• **The students are able to acquire knowledge about the growth and spread of Nationalism across Europe.** • **The students are able to acknowledge and reflect on the reformation and unification process of nation states based on socio-economic and political crisis and national identity in 19th and 20th century Europe.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: III
Category: Honours
Paper Title: History Assam (Early to 1228 A.D.)
Paper Code: C-7

Unit	Name of the Topic	Course Outcomes
I	**Sources of Assam:** Archaeology and literary (indigenous and foreign)	• **The students are introduced to the various sources for reconstructing the history of ancient Assam in the form of literary as well as archaeological records.**
II	**Early settlements in the Brahmaputra valley:** Pragjyotishpur. Dhansriri, Doyang, Kapili	• **The students are able to acquire knowledge about the early settlements by different tribal groups in the Brahmaputra valley.** • **The students are introduced to geographical boundaries of Assam and its trade ties with mainland India during the ancient period.**
III	**Early political, social and economic structures in the Brahmaputra valley-** Varmanas, Palas and Salasthambhas	• **The students are able to explore and analyse the socio-political and economic developments under the emerging powerful kingdoms in the Brahmaputra valley.**
IV	**Post Pala Political Conditions:** i) Invasions from the West: Palas of Bengal; Sultans of Bengal ii) Emergence of petty Chieftains in the Brahmaputra valley	• **The students are able to acquire knowledge about the condition and developments in the politics of Assam after the downfall of the Palas.** • **The students are able to acknowledge and reflect on the series of invasions from the west; by the Palas of Bengal and the Sultans of Bengal, their motifs and designs and the rise of Baro Bhuyans and their control and political establishment in the Brahmaputra valley.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: III
Category: Regular
Paper Title: History of India (1757-1947 A.D.)
Paper Code: GE-3

Unit	Name of the Topic	Course Outcomes
I	**Expansion and Consolidation of colonial Power:** (a) Mercantilism, foreign trade and early forms of exactions from Bengal. (b) Dynamics of expansion, with special reference to Bengal Mysore, Western India, Awadh, Punjab, and Sindh.	• **The students are able to acquire knowledge about the advent and expansion of the British in India, economic reforms, Battle of Plassey : ceded Dewani rights in Bengal.** • **The students are able to understand the developments of annexation policies of Indian territories and results of series of battles fought with Indian powers; the Battle of Buxar, Battle of Plassey.**
II	**(a) Reaction to Colonial Rule:** (i) Discontent and Disaffection during Company's Rule. (ii) Revolt of 1857: Nature, Participation and Impact. **(b) Colonial Construction of India ;** (i) Administrative Structure – Central, Provincial and District (ii) Arms of State-Police, Army, Law and Civil Service.	• **The students are able to acquire knowledge about the various revolts and uprisings against colonial administration, nature of colonial policies and discontent among Indian population.** • **The students are able to explore and analyse the nature and development of the Revolt of 1857 and its impact.** • **The students are able to understand the developments of British occupation of India after 1857; proclamation by the Crown and the nature of administrative structure.**
III	**Early Stages of Emergence of Nationalism :** (a) Formation of Associations and Pressure groups. (b) Peasant and tribal revolts, rise of middle class	• **The students are able to explore and analyse the emergence of early nationalism in India and formation of different associations in India.** • **The students are acquainted with the various revolts and agitations from different tribal and peasant groups in parts of India and the rise of the middleclass.**
IV	**(a) Birth of The Indian national Congress** – Early Programmes and objectives. **(b) Rise of the Extremism in the Indian National Congress, Programmes and objectives of moderate and extremist functions, partition of Bengal and Surat split, Swadeshi Movement. Leaders of Extremist and Moderate factors.**	• **The students are able to acquire knowledge about the fomation and origin of the Indian National Congress, its motifs and designs and early campaigns and objectives.** • **The students are able to acknowledge the phases of Indian National Congress; the agendas and functions of the moderates and the Extremists groups, Repurcussions of the Partition of Bengal, the Surat split and the contribution of the Congress leaders.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: III
Category: Regular
Paper Title: History of India (1757-1947 A.D.)
Paper Code: DSC-1C

Unit	Name of the Topic	Course Outcomes
I	**Expansion and Consolidation of colonial Power:** (a) Mercantilism, foreign trade and early forms of exactions from Bengal. (b) Dynamics of expansion, with special reference to Bengal Mysore, Western India, Awadh, Punjab, and Sindh.	• **The students are able to acquire knowledge about the advent and expansion of the British and in India, economic reforms in India, Battle of Plassey : ceded Dewani rights in Bengal.** • **The students are able to understand the developments of annexation policies of Indian territories and results of series of battles fought with Indian powers; the Battle of Buxar, Battle of Plassey.**
II	**(a) Reaction to Colonial Rule:** (i) Discontent and Disaffection during Company's Rule. (ii) Revolt of 1857: Nature, Participation and Impact. **(b) Colonial Construction of India ;** (i) Administrative Structure – Central, Provincial and District (ii) Arms of State-Police, Army, Law and Civil Service.	• **The students are able to acquire knowledge about the various revolts and uprisings against colonial administration, nature of colonial policies and discontent among Indian population.** • **The students are able to explore and analyse the nature and development of the Revolt of 1857 and its impact.** • **The students are able to understand the developments of British occupation of India after 1857; proclamation by the Crown and the nature of administrative structure.**
III	**Early Stages of Emergence of Nationalism :** (a) Formation of Associations and Pressure groups. (b) Peasant and tribal revolts, rise of middle class	• **The students are able to explore and analyse the emergence of early nationalism in India and formation of different associations in India.** • **The students are acquainted with the various revolts and agitations from different tribal and peasant groups in parts of India and the rise of the middleclass.**
IV	**(a) Birth of The Indian national Congress** – Early Programmes and objectives. **(b) Rise of the Extremism in the Indian National Congress, Programmes and objectives of moderate and extremist functions, partition of Bengal and Surat split, Swadeshi Movement. Leaders of Extremist and Moderate factors.**	• **The students are able to acquire knowledge about the fomation and origin of the Indian National Congress, its motifs and designs and early campaigns and objectives.** • **The students are able to acknowledge the phases of Indian National Congress; the agendas and functions of the moderates and the Extremists groups, Repurcussions of the Partition of Bengal, the Surat split and the contribution of the Congress leaders.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: III
Paper Title: An Introduction to Archaeology
Paper Code: SEC-1

Unit	Name of the Topic	Course Outcomes
I	Definition & Components	• The students are introduced to the concept and definitions of Archaeology, its components and facets.
II	Historiographical Trends	• The students are able to acquire knowledge about the historiographical approaches to Archaeology, concepts and tools.
III	Research Methodologies, Definition of Historical Sites & Explorations, Documentation, Codification, Classification, Analysis of findings and publications	• The students are able to acquire knowledge about the research methodologies and techniques and steps of documentation and analysis of findings and publications.
IV	Field Work & Tools of research	• The students are introduced to modes of research in Archaeology and components in Field Archaeology: Methods of Exploration of historical sites, Excavation and Dating Antiquities.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: IV
Category: Honours
Paper Title: : History of India (1526-1757) A.D
Paper Code: C-8

Unit	Name of the Topic	Course Outcomes
I	**Sources:** Persian and vernacular literary cultures, histories, memoirs and travelogues	• **The students are introduced to the various sources for reconstructing the history of medieval period in India in the form of literary as well as archaeological records.** • **The students are able to explore and analyse the dynastic establishments by Islamic rulers and their admistration and legacy throughout dynasties.**
II	**Consolidation and territorial expansion:** Akbar, Jahangir, Shahjahan, Aurangzeb, Mughal Administrations	• **The students are able to acquire knowledge about the stronghold and expansion of the Mughal empire, the nature of the policies and administration and territorial control under Emperor Akbar, Jahangir, Shahjahan and Aurangzeb.**
III	**State and religion under the Mughals:** i) Religious policy, ii) Society and Economy	• **The students are able to explore and analyse the nature and relevance of the different socio-economic and religious policies adopted in the Mughal societies by the emperors of the time.**
IV	**Rise of Maratha power and Decline of the Mughal.**	• **The students are able to acquire knowledge about the rise of Maratha power, their nationalism and their influence over large portion of Indian Subcontinent in the 17th century.** • **The students are able to acknowledge and reflect on the might of the Maratha kingdom under Chattrapati Shivaji Maharaj and his administration and the downfall of the Mughal empire.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: IV
Category: Honours
Paper Title: : History of Assam (1228-1826) A.D.
Paper Code: C-9

Unit	Name of the Topic	Course Outcomes
I	**Sources of Assam:** Archaeology and literary (indigenous and foreign)	• **The students are introduced to the various sources for reconstructing the history of medieval period in Assam in the form of literary as well as archaeological records.** • **The students are able to understand the legacy of the medieval society, its rulers and chroniclers.**
II	**Foundation, Expansion & consolidation of the Ahoms**	• **The students are able to acquire knowledge about the advances and establishment of the Ahom kingdom in the Brahmaputra valley, their foundation, expansion for control and administration.**
III	**The neighbouring kingdom of the Ahom:** The kingdoms of Kachari, Jayantia, Koch; Hills and others	• **The students are able to explore and analyse the state and the nature of relation between the Ahoms and their neighbouring kingdoms of the Kacharis, Jayantias, Koches, Garos and conflicts among them.**
IV	**The socio-religious conditions of Assam:** Sakthism, tribal religion, NeoVaisnavite movement, Bhakti movement, etc.	• **The students are able to acquire knowledge about the social and religious state under the Ahom kingdom as well as other tribal practices beyond its territories.** • **The students are able to acknowledge and reflect on the development of religious strife within the communities in Assam, the impact and influence of the Neo-Vaisnavite and the Bhakti movement in Assam.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: IV
Category: Honours
Paper Title: : History of Modern Europe II
Paper Code: C-10

Unit	Name of the Topic	Course Outcomes
I	**Liberal Democracy, Working Class Movements and Socialism in the 19th and 20th Centuries:** a. The struggle for parliamentary democracy and civil liberties in Britain. b. Forms of protest during early capitalism: food riots in France and England Luddites and Chartism. c. Early socialist thought; Marxian Socialism, the First and the Second International. d. German Social Democracy, Politics and Culture e. Christian Democracy as a political and ideological force in western and central Europe	• **The students are introduced to the various socio-political developments and movements in modern European states.** • **The students are able to acquire knowledge on the struggle for parliamentary democracy and the nature of early protests against capitalism.** • **The students are able get an insight into the ideals of Marx's Socialism, its objectives, relevance and practice, class conflict and working class movements.**
II	**Russia: Crisis of Feudalism and Experiments in Socialism:** a. Emancipation of serfs b. Russian Populism and Social Democracy c. Revolutions of 1905; the Bolshevik Revolution of 1917 d. Programme of Socialist Construction	• **The students are able to acquire knowledge about the state of Russia during the industrialization era, failure of the age-old feudal system, adoption of new policies and techniques under Peter the Great and Tsar Alexander II.** • **The students are able to acknowledge the significance and results of the Revolutions of 1905 and 1917, overthrow of Tsarist regime, Vladimir Lenin and the f ormation of Soviet Union.**
III	**Imperialism, War, and Crisis in 1880-1939:** a. Theories and mechanisms of imperialism; growth of Militarism; Power blocks and alliances: expansion of European empires-War of 1914 b. The Post 1919 World Order: The Great Depression and Recovery c. Fascism, Nazism and Spanish Civil War d. Origin of the Second World War	• **The students are able understand the concept of imperialism and militarism in 19th century Europe, scramble for power, expansion of empires, arms race and formation of mutual alliances.** • **The students are able explore and analyse the origin and development of World War I, its causes and aftermath.** • **The students are able to gain an insight on the promulgation of Fascist and Nazi ideologies as major factors responsible for causing the Second World war.**
IV	**Cultural and Intellectual Developments since 1850:** a. Notions of Culture b. Creation of a new public sphere and mass media c. Mass education and extension of literacy d. Creation of new cultural forms: from Romanticism to Abstract Art	• **The students are able to acquire knowledge about major transformations and developments in arts, culture, mass media and institutions in 19th century Europe.** • **The students are introduced to the major intellectual trends and concept of cultural nationalism in Europe.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: IV
Category: Regular
Paper Title: Society and Economy of Assam
Paper Code: GE-4

Unit	Name of the Topic	Course Outcomes
I	**Socio-Economic condition of Ancient Assam**	• **The students are able to analyse and explain the socio-economic development in Assam in the ancient times.**
II	**Society and Economy in Medieval Assam:** Social Organization, Caste, Class Relationship, Nobility, Paiks, Slaves and Servants Neo-Vaishnavite Movement in Assam- Impact on Society Agriculture and Land System- Classification and Ownership of Land Land Revenue and other Taxes Economic Relation between the Hills and the Valley: the Posa system.	• **The students are able to acquire knowledge about the functions of various social organizations, division of caste and class and relationship between different social classes in medieval Assam.** • **The students are able to explore and analyse the nature of the Neo-Vaishnavite movement in Assam and its impact.** • **The students are able to gain an insight on the economic developments under the Ahoms, classifications and ownership system of land and revenue policies and economic ties with Hill tribes.**
III	**Society in Colonial Assam:** Growth of Modern Education and the role of Christian Missionaries Language Controversy in 19th century Assam Emergence of Middle Class Development of Press and Growth of Public Associations	• **The students are able to explore and analyse the Colonial establishment and administration in Assam, the role of Christian Missionaries, Emergence of the middle class in the society and the importance of press and role of public associations in the 19th century.**
IV	**Economy in Colonial Assam:** Agriculture Regulations and revenue system Plantation Economy of the Tea Industry Development of Modern Industries- Coal and Oil Development of Transport System	• **The students are able to acquire knowledge about the economic state in Colonial Assam, effects of revenue system and new regulations on agriculture.** • **The students are introduced to the history of the regulation, establishment and development of plantation economy Tea industries, Oil and Coal Industries and the transport system.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: IV
Category: Regular
Paper Title: : Society and Economy of Assam
Paper Code: DSC-1D

Unit	Name of the Topic	Course Outcomes
I	**Socio-Economic condition of Ancient Assam**	• **The students are able to analyse and explain the socio-economic development in Assam in the ancient times.**
II	**Society and Economy in Medieval Assam:** Social Organization, Caste, Class Relationship, Nobility, Paiks, Slaves and Servants Neo-Vaishnavite Movement in Assam-Impact on Society Agriculture and Land System-Classification and Ownership of Land Land Revenue and other Taxes Economic Relation between the Hills and the Valley: the Posa system.	• **The students are able to acquire knowledge about the functions of various social organizations, division of caste and class and relationship between different social classes in medieval Assam.** • **The students are able to explore and analyse the nature of the Neo-Vaishnavite movement in Assam and its impact.** • **The students are able to gain an insight on the economic developments under the Ahoms, classifications and ownership system of land and revenue policies and economic ties with Hill tribes.**
III	**Society in Colonial Assam:** Growth of Modern Education and the role of Christian Missionaries Language Controversy in 19th century Assam Emergence of Middle Class Development of Press and Growth of Public Associations	• **The students are able to explore and analyse the Colonial establishment and administration in Assam, the role of Christian Missionaries, Emergence of the middle class in the society and the importance of press and role of public associations in the 19th century.**
IV	**Economy in Colonial Assam:** Agriculture Regulations and revenue system Plantation Economy of the Tea Industry Development of Modern Industries-Coal and Oil Development of Transport System	• **The students are able to acquire knowledge about the economic state in Colonial Assam, effects of revenue system and new regulations on agriculture.** • **The students are introduced to the history of the regulation, establishment and development of plantation economy Tea industries, Oil and Coal Industries and the transport system.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: IV
Paper Title: Historical Tourism: Theory & Practice
Paper Code: SEC-2

Unit	Name of the Topic	Course Outcomes
I	**Defining Heritage** - Art &Architecture in India: An overview: -Field Work: Visit to historical sites &Museums	• **The students are introduced to the heritage of the art and architecture in India.**
II	**Understanding Built Heritage:** -Stupa Architecture -Temple Architecture -Indo Persian Architecture, Forts, Palaces, Mosques -Colonial Architecture -Present day structures	• **The students are able to acquire knowledge about the structure and built of temple architectures in India, throughout different phases in Indian history.**
III	**Field Work:** Visit to site &Conducting of research	• **The students are introduced to field work,visit to historical sites and modes of research in field work.**
IV	**Modalities of conducting tourism**	• **The students are introduced to modalities of conducting tourism:** **Promotion of the destination** **Growth of local economy** **Incentive for Continuity & Betterment of local Craftsmen/Artists** **Maintenance of Public & Heritage Assets** **Cancellation of Seasonality factors without disturbing the Environment.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: V
Category: Honours
Paper Title: History of India (1757-1857) A.D.
Paper Code: C-11

Unit	Name of the Topic	Course Outcomes
I	**Expansion and Consolidation of colonial Power:** a. Mercantilism, foreign trade and early forms of exactions from Bengal. b. Dynamics of expansion, with special reference to Bengal, Mysore, Western India, Awadh, Punjab, and Sindh.	• **The students are able to acquire knowledge about the establishment and expansion of the British control in India, economic reforms, mercantilism, the Battle of Plassey : ceded Dewani rights in Bengal.** • **The students are able to understand the developments of annexation policies of Indian territories and results of series of battles fought with Indian powers; the Battle of Buxar, Battle of Plassey.**
II	**Colonial State and Ideology:** a. Arms of the colonial state: army, police and law. b. Ideologies of the Raj and racial attitudes. c. Education: indigenous and modern.	• **The students are able to understand the developments of British occupation of India after 1857; the nature British aministration structure under the Crown, state and law.** • **The students are able to aquire knowledge about the severity of elitism and racial attitude under the Raj towards the indegenous groups of India in terms of civics and education in colonial India.**
III	**Economy and Society:** a. Land revenue systems and forest policy. b. Commercialization and indebtedness. c. De industrialization. d. Drain of Wealth. e. Growth of modern industry	• **The students are able to gain an insight on the socio-economic policies of the British in India, introduction of series of land terms and taxes including control on forested lands.** • **The students are able to explore and analyse the condition and state of Indian economy after British commercialization on Indian goods and agriculture, its effects in society and indebtedness. The cause and effects of De-industrialization in India and introduction to the Drain of Wealth theory and its importance in understanding the Colonial designs.**
IV	**Popular Resistance:** a. Santhal uprising (185-7); Indigo rebellion (1860); Pabna agrarian Leagues (1873); Deccan riots (1875). b. Uprising of 1857	• **The students are able to acquire knowledge about the various revolts and uprisings against colonial administration, nature of colonial policies and discontent among Indian population.** • **The students are able to explore and analyse the nature and development of some of the major revolts and uprisings across India in different regions in the mid-late 1800s.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: V
Category: Honours
Paper Title: History of Assam (1826-1947) A.D.
Paper Code: C-12

Unit	Name of the Topic	Course Outcomes
I	**Advent of the British** a. Administrative Reorganization under David Scott b. Annexation of Lower Assam c. Anti-British uprisings (1826-1830) d. Annexation of Upper Assam e. Repercussions of the Revolt of 1857.	**The students are able to explore and analyse the Colonial establishment and consolidation in Assam and the nature of administration under David Scott.** **The students are able to understand the designs of the annexation of territories in Upper and Lower Assam.** **The students are able to explore the nature and significance of the anti-British uprisings between 1826-1830 and the impact of the Revolt of 1857 in Assam.**
II	**Territorial Expansion:** a. Cachar b. Manipur c. Jayantia Hills d. Khasi Hills e. Garo Hills f. Naga Hills g. Lushai Hills.	**The students are able to acquire knowledge about the onward expansion and annexation policy of the British over the territories and kingdoms around Assam.**
III	**Changes in the Economic structure:** a. Agrarian System b. Growth of modem industries-Tea, Coal and Oil c. Development of Transport and Communication	**The students are able to acquire knowledge about the economic state in Colonial Assam, effects of revenue system and new regulations on agriculture.** **The students are introduced to the history of the regulation, establishment and development of plantation economy Tea industries, Oil and Coal Industries and the transport system.**
IV	a. Political Awakening: Education, Press, Public Associations b. National Movement in Assam-Swadeshi Movement, NonCooperation movement, Civil Disobedience movement, Quit India movement, Role of women	**The students are able to explore and analyse the rise of public associations and role of press in the 19th century Assam.** **The students are able to aquire knowledge about the designs and the spread of national awakening among the people of Assam, the backgrounds and developments in Assam during the Indian national movement and the role and participation of the women population.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: V
Category: Honours
Paper Title: History of South East Asia in 19th & 20th Centuries
Paper Code: DSE-1

Unit	Name of the Topic	Course Outcomes
I	**Opening of China and Japan**	• **The students are able to acquire knowledge about the position of China and Japan before the advent of foreign powers into their lands.** • **The students are able to understand the motives and designs of the west's penetration into the Chinese and Japanese territories in the 17th and 19th centuries.**
II	**Popular Agitation in South East Asia:** a. Boxer Movement b. Taiping Rebellion c. Students' Movement d. War Lordism e. KMT f. PRC Revolution	• **The students are able to acquire knowledge about the nature and signifance of popular revolts and socio-political movements in China and the South East Asian nations.** • **The students are able to explore and analyse the processes and development of the Communist movement in China and the creation of the People's Republic of China in 1949.**
III	**Emergence of Modern Nation States:** a. The Union of Burma (Myanmar), 1948-1962 b. Indonesia c. Sukarno Era, 1949-1965. d. Cambodia under Norodom Sihanouk, 1955-1970	• **The students are able to gain an insight on the progress and socio-economic developments of the South East Asian states towards modernization.** • **The students are acquainted with the creation and objectives of the collective organizations such as the ASEAN and SEATO, aiming for socio-economic development among South East Asian nations.** • **The students are able to identify with the charismatic leaders in Indonesia and Combodia and thier socio-economic reforms and processes in development towards freedom.**
IV	**Movements of Resistance and the making of new identities:** a. Peasant resistance b. Radicalism and the Origins of the Vietnamese Revolution, 1920-1946 c. Indonesian Revolution, 1945-1949	• **The students are able to acquire knowledge about the nature and origin of various sorts of political, radical resistance movements in South East Asian nations.** • **The students are able to acknowledge and reflect on the origin and development of the Vietnamese Revolution against France and the Indenesian Revolution against the Dutch.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: V
Category: Honours
Paper Title: Ethno History of the Bodos
Paper Code: DSE-2

Unit	Name of the Topic	Course Outcomes
I	Sources and concept of Ethno History	• The students are introduced to meaning and concept of Ethno History, its importance and objectives. • The students are exposed to the various sources for understanding and determining the history of indegenous peoples across the world.
II	Origin, Migration and Settlement of the Bodos	• The students are able to acquire knowledge about the origin and settlement of the indegenous tribal group- The Bodos in the North-East region of India.
III	Society of the Bodos	• The students are able to gain an insight on the social lives of the Bodos, the social structure and their religious life, culture and tradition.
IV	Economic Life of the Bodos	• The students are able to acquire knowledge about the economic structure, lifestyle and agriculture and crafts of the Bodos.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: V
Category: Regular
Paper Title: History of Modern Europe (1780-1945)
Paper Code: DSE-1A

Unit	Name of the Topic	Course Outcomes
I	**The French Revolution and Europe:** a. Ancien Regime b. Intellectual currents c. Different Phases of the French Revolution 1789 – 99 d. Napoleonic Empire	• **The students are introduced to the socio-political and economic status in 18th century Europe. The European feudal society, its crisis.** • **The students are able to understand the origin and development of the France Revolution, its causes and effects. The contribution of the Intellectual groups and the emergence of different social groups.** • **The students are able to acquire knowledge on Napoleon's rise to power and his conquests for control across the European continent and beyond, his downfall.**
II	**Restoration and Revolution: c. 1815 - 1848:** a. Conservatism & restoration of old hierarchies b. July Revolution and February Revolution	• **The students are able to acquire knowledge about the situation in Europe after Napoleon, restoration, border restructuring and the Congress of Vienna.** • **The students are able to explore and analyse the different developments throughout Europe in terms of nationalism and revolution and reforms in social, religious and political grounds between 1815-1848.**
III	**Socio-Economic Transformation and Growth of Nationalism and the Remaking of States in the 19th and 20th Centuries:** a. Industrial Revolution and Europe b. Unification of Italy and Germany	• **The students are able to explore and analyse the development of capitalism in society and economy throughout Europe in the 18th century.** • **The students are able to acquire knowledge about the growth and spread of Nationalism across Europe.** • **The students are able to acknowledge and reflect on the reformation and unification process of nation states based on socio-economic and political crisis and national identity in 19th and 20th century Europe.**
IV	**Between two World Wars:** a. The First World War and its aftermath b. The League of Nations c. Collective Security and Problem of Disarmament d. Origins of the Second World War and its aftermath	• **The students are able to explore and analyse the development of capitalism in society and economy throughout Europe in the 18th century.** • **The students are able to acquire knowledge about the growth and spread of Nationalism across Europe.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: V
Category: Regular
Paper Title: History of India (From the Earliest to 1206)
Paper Code: GE-1

Unit	Name of the Topic	Course Outcomes
I	**Sources of Ancient Indian History:** Literary, Archaeological and Foreign, Pre-History and Proto History: Paleolithic, Mesolithic, Neolithic, Chalcolithic and Indus Valley Civilization	• **The students are introduced to the various sources for reconstructing the history of ancient period in India in the form of literary as well as archaeological records.** • **The students are able to acquire knowledge about the various stages of evolution of human cultures and the belief systems in the Indian subcontinent since their origin in time, spanning from the earliest times unto the Indus Valley civilization.**
II	**Rig Vedic age and Post Vedic (Upto 6th Century B.C):** The Aryans, Janapadas, Mahajanapadas, Budhism and Jainism	• **The students are able to gain an insight on the Rig-Vedic age, the coming of the Aryans, their settlements, culture, economy and religious beliefs.** • **The students are able to expain the formation of big city states in Early India, their origin, geography, functions and socio-political advances across India.** • **The students are able to acquire knowledge on develo-pments and spread of Buddhist and Jain cultures and their influence in civilization.**
III	**Territorial States and Foreign invasions:** Iranian and Macedonian Invasion, Iranian Invasion and Alexander's invasion, The Mauryas, The Satavahanas and the Gupta etc.	• **The students are able to explore and analyse the wave of foreign invasions in ancient India including the Iranians and the Macedonians.** • **The students are able to explain and reconstruct the establishment of powerful kingdoms such as the Mauryas and the Guptas, their administration and legacy.**
IV	**Post Gupta Period:** Harsha, The Cholas, The Pallavas, The Chalukyas, The Rajputs, Varvamana dynasty, Salasthambha dynasty, Pala dynasty, etc.	• **The students are able to acquire knowledge about the period after the golden age, the evolution in political structures and developments in economic fields and the rise of regional kingdoms in North as well as in the Southern part of Indian Subcontinent.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: V
Paper Title: Indigenous Handicrafts of the Bodos
Paper Code: SEC-3

Unit	Name of the Topic	Course Outcomes
I	Understanding handicrafts.	• The students are introduced to the material culture of the Bodos community.
II	Indigenous Handicrafts of the Bodos: (a) Weaving (b) Tools (c) Knitting (d) Spinning (e) Bamboo technology	• The students are able to acquire knowledge about the different types of handicrafts and tools used by the Bodo folks.
III	Employment generation	• The students are introduced to how handicrafts business can generate employment.
IV	Practical training	• The students are given practical training on techniques of making indegenous handicraft goods.

COURSE OUTCOMES

[illegible]saigaon College, Gossaigaon
Subject: History
Semester: VI
Category: Honours
Paper Title: History of India (1857-1947) A.D.
Paper Code: C-13

Unit	Name of the Topic	Course Outcomes
I	**Cultural Changes and Socio-Religious Reform Movements:** a. The advent of printing and its implications. b. Reform and Revival: Brahmo Samaj, PrarthnaSamaj, and Ramakrishna and Vivekananda, Arya Samaj, Wahabi, Deoband, Aligarh and Singh Sabha Movements. c. Making of religious and linguistic identities. d. Caste: Sanskritising and anti Brahminical trends	**The students are introduced to the formation of various societies for regulating reform movements** • **based on cultural and religious motifs, their agendas and achievements, role of printing in growth of nationalism in India during the early 20th century.** **The students are able to understand the ideological origins of linguistic traditions, political movements** • **and the process of redefining national and ethnic identities.**
II	**Nationalism: Trends up to 1919:** a. Political ideology and organizations, formation of INC. b. Moderates and extremists. c. Swadeshi Movement d. Revolutionaries	**The students are able to acquire knowledge about the fomation and origin of the Indian National** • **Congress, its motifs and designs and early campaigns and objectives.** **The students are able to acknowledge the phases of Indian National Congress; the agendas and functions** • **of the moderates and the Extremists groups, the development of Swadeshi movement and the role of revolutionaries in the Indian freedom struggle.**
III	**Gandhian nationalism after 1919: Ideas and Movements:** a. Mahatma Gandhi: his Perspectives and Methods. b. (i) Impact of the First World War. (ii) Rowlett Satyagraha and Jallianwala Bagh. (iii) Non- Cooperative and Civil Disobedience. (iv) Provincial Autonomy, Quit India and INA. c. Left wing movements. d. Princely India: States people movements. e. Nationalism and Culture: literature and art	**The students are able to explore and analyse Gandhian nationalism; his methods and instruments** • **of non-violence and principles; The developments of Non-Cooperation movement and Civil Disobedience movement.** **The students are able gain insight on the nature and significance of Quit India Movement, Subhash** • **Chandra Bose and the INA and the formation of the Comunist Party of India and their political agendas and movements.**
IV	**Communalism:** Ideologies and practices, RSS, Hindu Maha Sabha, Muslim League.	**The students are able to acquire knowledge about** • **history of Communalism in India, ideologoies and trends in Communalism and practices.** **The students are able to acknowledge and reflect on** • **the aims and objectives of community induced political groups such as the Hindu Mahasabha, Muslim League and RSS.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: VI
Category: Honours
Paper Title: History of World Civilizations
Paper Code: C-14

Unit	Name of the Topic	Course Outcomes
I	**Ancient Egypt:** a. The Old Kingdom-Egyptian writing, building of Pyramids. b. The Middle Kingdom-Imperial Egypt, Egyptian Art & Architecture. c. The New Kingdom – Emergence and Decline.	• **The students are introduced to the history of Egyptian civilization, their inventions and their advances in art, engineering, technology and architecture.** • **The students are able to acquire knowledge on the age-old Imperial kingdom of Egypt, ideology of kingship, the organization of society, religious practices, after-life beliefs, and relations with neighboring peoples.** • **The students are able to evaluate on the emergence and development of the new Kingdom under Ahmose I, serics of wars and conquest and disunity and decline of the empire.**
II	**Ancient Mesopotamia:** a. Early Sumer b. Sumerian writing c. System of irrigation d. City states of Sumer e. Temples and Religion f. Hammurabi's Code of Laws.	• **The students are able to acquire knowledge about the early Sumerians, their writing technique and innovations in various grounds.** • **The students are able to gain a deeper understanding of the Sumerian city-states, the kings, the temples-Zuggurat and the religious life of the Sumerian folks. And also acknowledge the Code of Hammurabi.**
III	**Chinese Civilization:** a. Early dynastic; Classical literature b. Confucius c. Han Dynasty d. Tang Dynasty e. Chinese Trade f. Chinese Art	• **The students are able to acknowledge the classical literature of Chinese Civilization, ancient Chinese tradition and wisdom of the greatest philosopher: Confucius, his way of life and teachings.** • **The students are able to acquire knowledge about the imperial dynasties of China, their administration and developments throughout the golden period, foreign trade: the Silk road and an insight on Chinese art and crafts.**
IV	**Ancient Greece:** a. Rise of city- states b. Athenian Democracy c. Art, Literature, Philosophy & Science Ancient Roman: a. Rise of City States b. Roman Empire c. Trade and Commerce	• **The students are able to explain and reconstruct the development of Greek city-states, their rise to power, democratic government in Athens and political freedom. Greek art and culture and expertise in Literature and philosophy.** • **The students are able to acknowledge and reflect on history of ancient Romans, development of city-states, the classical era, developments in the Roman Republic, the Establishment and consolidation of the Roman Empire and trade and administration.**

COURSE OUTCOMES

[illegible]gaon College, Gossaigaon
Subject: History
Semester: VI
Category: Honours
Paper Title: History of the USA (1776-1945) A.D.
Paper Code: DSE-3

Unit	Name of the Topic	Course Outcomes
I	**The Background:** a. The land and indigenous people b. settlement and colonization by Europeans c. Early colonial society and politics d. Indentured labour-White and Black	• **The students are able to acquire knowledge on the indigenous inhabitants of the Americas before the arrival of the European settlers in the 15th century** • **The students are able to understand the origin of European settlements in the American frontier.** • **The students are acquainted with the political status and relationship of the natives and the Colonists, indentured labour groups across the continent, exploitation and transportation of slaves.**
II	**Making of the Republic:** a. Revolution: Sources of conflict, Revolutionary groups, Ideology, The War of Independence and its historical interpretations b. Processes and Features of Constitution making: Debates, Historical interpretations	• **The students are able to explore and analyse the Origin and factors responsible for the American Revolution of 1765-1791, the developments in conflict and the War of independence and its interpretations in history.** • **The students are able to identify with the formation of the American Constitution, the processes of drafting it and its features.**
III	**Evolution of American Democracy:** a. Federalists, Jeffersonianism, Jacksonianism: Rise of political parties (1840-1960), Judiciary-role of the Supreme Court. b. Expansion of Frontier: Turner's Thesis, Marginalization, displacement and decimation of Native Americans; Case Histories of Tecumseh; Shawnee Prophet c. Limitation of Democracy: Blacks and Women.	• **The students are able to describe the origins and developments in the American democracy and the role of various bodies in the goverment including the rise of different political parties.** • **The students are acquainted with Friedrick Jackson Turner's 'Frontier Theory' and its phases.** • **The students are able to identify with the marginalization of the native population, exploitation and genocide. Racism in politics and gender discrimination.**
IV	**Civil War:** a. Abolitionism and Sectionalism b. Issues and interpretations c. Rise of Republicanism, Emancipation and Lincoln	• **The students are able to acquire knowledge about the American Civil war 1861-1865, political disunity and sectionalism and Anti-slavery movements.** • **The students are able to acknowledge the rise of Republicanism in American politics; the rule of Abraham Lincoln and his policies of emancipation and social freedom.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: VI
Category: Honours
Paper Title: History of USSR (1917-1964) A.D.
Paper Code: DSE-4

Unit	Name of the Topic	Course Outcomes
I	**The Russian Revolutions-February and October 1917, Dual Power, Provisional government, the establishment of soviet Power, Nationalities question**	• **The students are introduced to the origin and development of the phases of Russian revolution, political instability and overthrow of the Tsarist autocracy.** • **The students are able to acquire knowledge on Vladimir Lenin, the nationalities question and the creation of the socialist state and formation of USSR.**
II	**Political, Social and Cultural Changes 1928-45:** Demography, Working Class and gender relations	• **The students are able to explore and analyse the cultural and socio-political changes in Soviet Russia, post revolution, Stalin's five year plan of industrializationband collectivization.** • **The students are able to acquire knowledge on Cultural revolution in Soviet Russia, question for political dominance and conflict between the old and the new classes of the society.**
III	**Economic Policies:** Industrial and Agricultural reconstruction, Moves towards Market Socialism	• **The students are acquainted to various economic reforms and policies, nationalization of wealth, mass collectivization of labour and the introduction of Market Socialism as a NEP in Soviet Russia in the 1920s.**
IV	**Soviet Foreign Policy, Cominterns and the Second World War 1929-45**	• **The students are able to acquire knowledge about the objectives and designs of the Soviet Foreign Policy, promotion of Soviet ideals and regulation of the Comintern Organization.** • **The students are able to acknowledge and reflect on the motifs and nature of participation of Soviet Union's involvement in World War II and its aftermath.**

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: VI
Category: Regular
Paper Title: Patterns of Colonialism (15th – 19th Century)
Paper Code: DSE-1B

Unit	Name of the Topic	Course Outcomes
I	Defining Colonialism, Establishment of Colonial Empires by Spain and Portugal in 15th-16th centuries	• The students are able to understand the concept and meaning of Colonialism. • The students are acquainted with the origin and development of Colonial Empires specifically in Spain and Portugal in 15th-16th century
II	French in Canada: 1534-1763, British in India in 18th century	• The students are able to explore and analyse the occupation of France in Canada in the 16th century, the fur trade and creation of the 'New France'. • The students are able to situate and relate to the circumstances leading to the consolidation of colonial rule over India and their consequences.
III	Informal Empire in 19th century Africa.	• The students are introduced to the concept of informal Colonialism. • The students are able to describe the intervention and imperial expansion of the French in Africa. • The students are able to identify with the socio-economic and political reasons behind France's 'mission to civilise'.
IV	Scramble for Power in late 19th century China.	• The students are able to acquire knowledge about the characteristics of foreign impact on China, the opening up of China by the British, the Opium wars and resistance by the Imperial Qing dynasty. • The students are able to explore and analyse the state of socio-economic and political upheaval brought upon by foreign powers toward China during the late 19th century.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: VI
Category: Regular
Paper Title: History of India (1206-1757)
Paper Code: GE-2

Unit	Name of the Topic	Course Outcomes
I	a. Sources of Medieval India b. Foundation and Consolidation of the Sultanate: Slave Dynasty, Khilji Dynasty, Tughlak Dynasty, Sayyad Dynasty, Lodhi Dynasty	• The students are introduced to the various sources for reconstructing the history of medieval period in India in the form of literary as well as archaeological records. • The students are able to explore and analyse the dynastic establishment and foudation of the Delhi Sultans in medieval india, their admistration and legacy throughout dynasties.
II	Fragmentation of the Sultanate, Rise of Provincial Kingdoms and Rise of Afghans: Bahmani, Vijaynagar etc. and Administration of Sher Shah	• The students are able to acquire knowledge about the downfall of the Delhi sultanate and the emergence of the powerful provincial kingdoms in the north as well as southern part of Indian sub-continent. • The students are able to acknowledge the might and achievements of Sher Shah Suri, his policies and administration.
III	India under the Mughals: Akbar, Jahangir, Shahjahan, and Aurangzeb	• The students are able to explore and analyse the dynastic establishment and foudation of the Mughal Empire in medieval india, their admistration, legacy and downfall.
IV	Rise of the Maratha: Marathas under Shivaji, Administration	• The students are able to acquire knowledge about the rise of Maratha power, their nationalism and their influence over large portion of Indian Subcontinent in the 17th century. • The students are able to acknowledge and reflect on the might of the Maratha kingdom under Chattrapati Shivaji Maharaj and his administration.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon
Subject: History
Semester: VI
Paper Title: Project Work (Field Work and Report Writing)
Paper Code: SEC-IV

This paper will contain field work and report writing. Report writing will constitute not less than 6000 words.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon

Subject : **Zoology**
Semester : **I**
Paper title : **NON-CHORDATES I: PROTISTS TO PSEUDOCOELOMATES**
Paper code : **ZOO-101H (CC-1)**

Units	Name of the Topic	Course Outcomes
I	Protista, Parazoa and Metazoa	• Knowledge on characteristic features of this animal group and their classification up to class level will help students to identify the animal. • Knowing their life cycle will help student to learn about pathogenecity of the diseases caused by Plasmodium and Entamoeba histolytica. • Get idea on how they move and reproduce. • Get idea on evolutionary aspects of body symmetry and segmentation in them.
II	Porifera	• Having knowledge on the characteristic features of Poriferans and their classification up to class level will help students to understand their of exixtence. • Get idea about the role of canal system in this group of animal and the significance of spicules in them.
III	Cnidaria	• Achieving concept on characteristic features of Cnidarian groups and their classification up to class level will help students to identify the animal. • Know their process of metagenesis and polymorphism. • How coral reefs are formed and its significance.
IV	Ctenophora	• Will help students to know characteristic features of Ctenoporans and their evolutionary significance.
V	Platyhelminthes	• Will be able to know characteristic features of Flat worms and their classification up to class level. • The study of life cycle and pathogenecity of Fasciola and Taenia will help students to be aware of their infection and their harmful impacts on health.
VI	Nemathelminthes	• Concept on characteristic features of round worms and their classification up to class level will help students to identify this animal group. • Study of their life cycle will help students to understand about the significance of parasitic animals and pathogenecity Caused due to their infection.
	Practicals	• Learn how whole mount of microscopic animals are prepared. • Practically understand the diversity of protists in the water body of different ponds. • Significance of study of the museum specimen. • How to design and write projects especially on life cycle of

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		invertebrate animals.

Semester : I
Paper title : **PRINCIPLES OF ECOLOGY**
Paper code : **ZOO-102H (CC-2)**

Units	Name of the Topic	Course Outcomes
I	Introduction to Ecology	• Knowledge on ecological history will enable students to conceptualize more vividly on various factors at interplay in the ecological balance of nature from the time immemorial. • Concept on autecology and synecology will help students to understand the about the individualistic and inter-relatedness view if of ecological studies. • Idea on various physical factors will guide students to understand better how these factors interplay as limiting in maintaining the balance of the nature.
II	Population	• The term individual, population, community etc., studied under the population are govern by various group attributes like density, natality, mortality, migration and immigration will help students to understand how these are inter-related with various environmental factors of nature and play a role in maintaining balance of the nature. • The concept on population interactions will help students to understand how nature by virtue of its interaction with various biotic and abiotic factors keeps population at its carrying capacity level to maintain ecological balance.
III	Community	• Students will be exposed to various community characteristics, its stratifications and effects on ecological succession leading to climax community. • On the concept of theoretical implications to climax community.
IV		• Knowledge on the ecosystem will help students to know more about the productivity and role of various abiotic and biotic factors of nature. • The concept on energy flow in nature happens only through the ecosystem will enable students to understand that it is the role of every one to conserve ecological system of nature. • How various geo-chemical cycles are playing its role will sensitize students to conserve it.

V	Nemathelminthes	• Concept on characteristic features of round worms and their classification up to class level will help students to identify this animal group. • Study of their life cycle will help students to understand about the significance of parasitic animals and pathogenecity caused due to their infection.
VI	Annelida	• Get concept on characteristic features of round worms and their classification up to class level and will help students to identify this animal group. • Will learn about the mesmerism of this animal group.
VII	Arthropoda	• Will learn about the general features of arthropod animals and their classification up to classes. • Know about the mechanism of their vision and also the mode of metamorphism.
VIII	Mollusca	• Will learn about the general features of arthropod animals and their classification up to classes. • Know about the mechanism of their vision and also the mode of metamorphism.
IX	Echinodermata	• Will learn about the general features of echinoderms and their classification up to class level. • Know about the importance of water vascular system their role in physiology of the animal.
X	Protochordates	• Will learn about the general features of protochord animals and their phylogeny.
XI	Agnatha	• Can learn about the general features of Agnathans and indentify this animal group and their classification up to class level.
XII	Pisces	• Can learn the general features of fishes, their classification up to order level. • Learn the mechanism of osmoregulation in fishes.
XIII	Amphibia	• Can learn about the general features of Ambhibians, indentify this animal group and their classification up to class level and also on their parental care.
XIV	Reptiles	• Can learn about the general features of Reptiles, indentify this animal group classify them up to class level. • Learn to distinguish between poisonous and non-poisonous snakes and their biting mechanisms.
XV	Aves	• Can learn about the general characteristics of bords, indentify this animal group and their classification up to order level. • Learn about the flight adaptation in birds.
XVI	Mammals	• Can learn about the general features, origin of mammals and their classification up to order level.

XVII	Practical	• Practically learn how to indentify museum specimens. • The procedure to study permanent slides. • Learn different keys for identifying poisonous and non-poisonous snakes.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon

Subject : Zoology
Semester : II
Paper title : NON-CHORDATES II: COELOMATES
Paper code : ZOO-201H (CC-3)

Units	Name of the Topic	Course Outcomes
I	Introduction to Coelomates	• Students are able to understand and give answer to Evolution of coelom and metamerism
II	Annelida	• The students will be able to understand— • General characters and classification up to classes
III	Arthropoda	• Vision and Respiration in Arthropoda Metamorphosis in Insects
IV	Onychophora	• General characteristics and Evolutionary significance
V	Mollusca	• Respiration in Mollusca Torsion and detorsion in Gastropoda, Pearl formation in bivalves, Evolutionary significance of trochophore larva
VI	Echinodermata	• General characteristics and Classification up to classes, Water-vascular system in Asteroidea, Larval forms in Echinodermata, Affinities with Chordates
VII	Practical	• Students are able to identify and classify the museum specimens of True Invertebrate coelomate • They learn how to mount temporary slides • Students can write Project Report on any related topic to larval forms (crustacean, mollusk and echinoderm)

Semester : II
Paper title : **CELL BIOLOGY**
Paper code : **ZOO-202H (CC-4)**

Units	Name of the Topic	Course Outcomes
I	Overview of Cells	• Prokaryotic and Eukaryotic cells, Virus, Viroids, Mycoplasma, Prions
II	Plasma Membrane	• Various models of plasma membrane structure Transport across membranes: • Active and Passive transport, Facilitated transport Cell junctions: Tight junctions, Desmosomes, Gap junctions
III	Endomembrane System	• Structure and Functions: Endoplasmic Reticulum, • Golgi Apparatus, Lysosomes
IV	Mitochondria and Peroxisomes	• Mitochondria: Structure, Semi-autonomous nature, Endosymbiotic hypothesis Mitochondrial Respiratory Chain, Chemi-osmotic hypothesis Peroxisomes
V	Cytoskeleton	• Structure and Functio ns: Microtubules, Microfilaments and Intermediate filaments
VI	Nucleus	• Structure of Nucleus: Nuclear envelope, Nuclear pore complex, Nucleolus Chromatin: Euchromatin and Hetrochromatin and packaging (nucleosome)
VII	Cell Division	• Mitosis, Meiosis, Cell cycle and its regulation
VIII	Cell Signaling	• GPCR and Role of second messenger (cAMP)
IX	Practicals	• Students will learn Preparation of temporary stained squash of onion root tip • Study of various stages of meiosis. • Preparation of permanent slide to show the presence of Barr body in human female blood cells/cheek cells. • Preparation of permanent slide to demonstrate: a. DNA by Feulgen reaction b. DNA and RNA by MGP c. Mucopolysaccharides by PAS reaction

Semester : III

Paper title : **DIVERSITY OF CHORDATA**

Paper code : **ZOO-301H (CC-5)**

Units	Name of the Topic	Course Outcomes
I	Introduction to Chordates	Students can understand General characteristics and outline classification of all Chordates
II	Protochordata	larval forms in protochordates; Retrogressive metamorphosis in Urochordata
III	Origin of Chordata	Dipleurula concept and the Echinoderm theory of origin of chordates Advanced features of vertebrates over
IV	Agnatha	Learn about Cyclostomes
V	Pisces	Migration, Osmoregulation and Parental care in fishes
VI	Amphibia	Origin of Tetrapoda (Evolution of terrestrial ectotherms); Parental care in Amphibians
VII	Reptilia	Affinities of Sphenodon; Poison apparatus and Biting mechanism in snakes
VIII	Aves	Principles and aerodynamics of flight, Flight adaptations and Migration in birds
IX	Mammals	Affinities of Prototheria; Adaptive radiation with reference to locomotory appendages
X	Zoogeography	Zoogeographical realms, Theories pertaining to distribution of animals, Plate tectonic and Continental drift theory, distribution of vertebrates in different realms
XI	Practical	• Students are able to identify and give identifying characters of Chordata museum specimens • Learn mounting of Webirian Ossicle of Mystus • Dissection of Fowl head (Dissections and mounts subject to permission) • Power point presentation on study of any two animals from two different classes by students

Semester : III
Paper title : ANIMAL PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEMS
Paper code : ZOO-303H (CC-6)

Units	Name of the Topic	Course Outcomes
I	Tissues	• Students can understand and able to write Structure, location, classification and functions of epithelial tissue, connective tissue, muscular tissue and nervous tissue.
II	Bone and Cartilage	• Students can learn about structure and types of bones and cartilages, Ossification, bone growth and resorption.
III	Nervous System	• Structure of neuron, resting membrane potential, Origin of action potential and its propagation across the myelinated and unmyelinated nerve fibers. • Types of synapse, Synaptic transmission and, Neuromuscular junction; Reflex action and reflex arc; Physiology of hearing and vision.
IV	Muscle	• Can learn different types of muscle; Ultra structure of skeletal muscle. • Molecular and chemical basis of muscle contraction; Characteristics of muscle twitch; Motor unit, summation and tetanus.
V	Reproductive System	• Can know about the Histological details of testis and ovary. • Physiology of male and female reproduction; Puberty, Methods of contraception in male and female.
VI	Endocrine System	• Learn about the histology of endocrine glands - pineal, pituitary, thyroid, parathyroid, pancreas, adrenal. • Hormones secreted by them and their mechanism of action. • Classification of hormones. • Regulation and Mode of hormone action, Signal transduction pathways for steroidal and non-steroidal hormones. • Hypothalamus (neuroendocrine gland) - principal nuclei involved in neuroendocrine control of anterior pituitary and endocrine system; Placental hormones.
VII	Practical	• Students can perform Demonstration of unconditioned reflex action. • Students can learn how to prepare temporary mount of Squamous epithelium, Striated muscle fibres and nerve cells. • Students learn to identify Histological permanent slides • Learn to prepare histological slides by Microtomy.

Semester : III

Paper title : **FUNDAMENTALS OF BIOCHEMISTRY**

Paper code : **ZOO-304H (CC-7)**

Units	Name of the Topic	Course Outcomes
I	Carbohydrates	• Students are able to understand and write in exam about the Structure and Biological importance. • Learn abouty Monosaccharides, Disaccharides, Polysaccharides and Glycoconjugates and their chemical stru tures.
II	Lipids	• Structure and Significance: Physiologically important saturated and unsaturated fatty acids, Tri-acylglycerols, Phospholipids, Glycolipids, Steroids.
III	Proteins	• Learn abot the amino acids its Structure, Classification. • General properties of α-amino acids. • Physiological importance of essential and non-essential α-amino acids Proteins. • Bonds stabilizing protein structure; Levels of organization in proteins. • Denaturation; Introduction to simple and conjugate proteins Immunoglobulins. • Basic Structure, Classes and Function, Antigenic Determinants.
IV	Nucleic Acids	• Structure: Purines and pyrimidines, Nucleosides, Nucleotides, Nucleic acids Cot Curves. • Base pairing, Denaturation and Renaturation of DNA. • Types of DNA and RNA, Complementarity of DNA, Hpyo-Hyperchromaticity of DNA.
V	Enzymes	• Know about Nomenclature and classification; Cofactors. • Specificity of enzyme action; Isozymes; Mechanism of enzyme action; Enzyme kinetics; Factors affecting rate of enzyme -catalyzed reactions. • Derivation of Michaelis-Menten equation, Concept of Km and Vmax, Lineweaver-Burk plot. • Multi-substrate reactions; Enzyme inhibition; Allosteric enzymes and their kinetics; Regulation of enzyme action.
VI	Practical	• Students can detect qualitative tests of functional groups in carbohydrates, proteins and lipids. • Can perform Paper chromatography of amino acids. • Can demonstrate action of salivary amylase under optimum conditions. • Can show effect of pH, temperature and inhibitors on the action of salivary amylase. • Can demonstrate proteins separation by SDS-PAGE.

Semester : III

Paper title : **HUMAN PHYSIOLOGY**
Paper code : **ZOO-306HR (GE-3)**

Units	Name of the Topic	Course Outcomes
I	Digestion and Absorption of Food	• Students are able to understand physiological processes, Structure and functions of Organ system of Human body. • Digestion and absorption of carbohydrates, fats and proteins; Nervous and hormonal control of digestion.
II	Functioning of Excitable Tissue (Nerve and Muscle)	• Propagation of nerve impulse (myelinated and non-myelinated Nerve fibre.
III	Respiratory Physiology	• Transport of oxygen and carbon dioxide in blood, Factors affecting transport of gases.
IV	Renal Physiology	• Mechanism and regulation of urine formation
V	Cardiovascular Physiology	• Coordination of heartbeat, Cardiac cycle, ECG
VI	Endocrine and Reproductive Physiology	• Brief account of spermatogenesis and oogenesis, Menstrual cycle
VII	Practical	• Students can prepare temporary mounts of Neurons and Blood film, haemin and haemochromogen crystals. • Can estimate hemoglobin using Sahli's haemoglobinometer. • Can examine permanent histological sections of mammalian oesophagus, stomach, duodenum, rectum, lung, kidney, thyroid, pancreas, adrenal, testis, and ovary.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon

Subject : **Zoology (Honours)**
Semester : **IV**
Paper title : **COMPARATIVE ANATOMY OF VERTEBRATES**
Paper code : **ZOO-401H (CC-8)**

Units	Name of the Topic	Course Outcomes
I	Integumentary System	• Students can understand give answer different critical questions of comparative anatomy of vertebrates. • *Structure, functions and derivatives of integument*

II	Skeletal System	• Can have an overview concept of axial and appendicular skeleton, Jaw suspensorium, Visceral arches.
III	Digestive System	• Alimentary canal and associated glands, dentition
IV	Respiratory System	• Skin, gills, lungs and air sacs; Accessory respiratory organs
V	Circulatory System	• General plan of circulation, evolution of heart and aortic arches
VI	Urinogenital System	• Succession of kidney, Evolution of urinogenital ducts, Types of mammalian uteri
VII	Nervous System	• Comparative account of brain Autonomic nervous system, Spinal cord, Cranial nerves in mammals
VIII	Sense Organs	• Classification of receptors Brief account of visual and auditory receptors in man
	Practicals	• Students can identify, can give identifying characters of permanent slides or photographs of placoid, cycloid and ctenoid scales. • Can disarticulate skeleton of Frog, Varanus, Fowl, Rabbit . • Carapace and plastron of turtle /tortoise. • Mammalian skulls: One herbivorous and one carnivorous animal. • Can dissect out arterial and urinogenital system . • Can identify structural differences of heart, lung, kidney, eye and ear from video recording (optional if dissection not permitted). • Able to write Project on skeletal modifications in vertebrates (Optional if not Dissection is done).

Semester : **III**

Paper title : **HUMAN PHYSIOLOGY**

Paper code : **ZOO-306HR (GE-3)**

Units	Name of the Topic	Course Outcomes
I	Digestion and Absorption of Food	• Students are able to understand physiological processes, Structure and functions of Organ system of Human body. • Digestion and absorption of carbohydrates, fats and proteins; Nervous and hormonal control of digestion.
II	Functioning of Excitable Tissue (Nerve and Muscle)	• Propagation of nerve impulse (myelinated and non-myelinated Nerve fibre.
III	Respiratory Physiology	• Transport of oxygen and carbon dioxide in blood, Factors affecting transport of gases.
IV	Renal Physiology	• Mechanism and regulation of urine formation
V	Cardiovascular Physiology	• Coordination of heartbeat, Cardiac cycle, ECG
VI	Endocrine and Reproductive Physiology	• Brief account of spermatogenesis and oogenesis, Menstrual cycle
VII	Practical	• Students can prepare temporary mounts of Neurons and Blood film, haemin and haemochromogen crystals. • Can estimate hemoglobin using Sahli's haemoglobinometer. • Can examine permanent histological sections of mammalian oesophagus, stomach, duodenum, rectum, lung, kidney, thyroid, pancreas, adrenal, testis, and ovary.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon

Subject : **Zoology (Honours)**

Semester : **IV**

Paper title : **COMPARATIVE ANATOMY OF VERTEBRATES**

Paper code : **ZOO-401H (CC-8)**

Units	Name of the Topic	Course Outcomes
I	Integumentary System	• Students can understand give answer different critical questions of comparative anatomy of vertebrates. • Structure, functions and derivatives of integument

II	Skeletal System	• Can have an overview concept of axial and appendicular skeleton, Jaw suspensorium, Visceral arches.
III	Digestive System	• Alimentary canal and associated glands, dentition
IV	Respiratory System	• Skin, gills, lungs and air sacs; Accessory respiratory organs
V	Circulatory System	• General plan of circulation, evolution of heart and aortic arches
VI	Urinogenital System	• Succession of kidney, Evolution of urinogenital ducts, Types of mammalian uteri
VII	Nervous System	• Comparative account of brain Autonomic nervous system, Spinal cord, Cranial nerves in mammals
VIII	Sense Organs	• Classification of receptors Brief account of visual and auditory receptors in man
	Practicals	• Students can identify, can give identifying characters of permanent slides or photographs of placoid, cycloid and ctenoid scales. • Can disarticulate skeleton of Frog, Varanus, Fowl, Rabbit . • Carapace and plastron of turtle /tortoise. • Mammalian skulls: One herbivorous and one carnivorous animal. • Can dissect out arterial and urinogenital system . • Can identify structural differences of heart, lung, kidney, eye and ear from video recording (optional if dissection not permitted). • Able to write Project on skeletal modifications in vertebrates (Optional if not Dissection is done).

Semester : IV
Paper title : **ANIMAL PHYSIOLOGY: LIFE SUSTAINING SYSTEMS**
Paper code : **ZOO-402H (CC-9)**

Units	Name of the Topic	Course Outcomes
I	Physiology of Digestion	• Students can understand and give answer different critical questions from Life sustaining system of Human physiology. • Structural organization and functions of gastrointestinal tract and associated glands. • Absorptions of carbohydrates, lipids, proteins, water, minerals and vitamins. • Hormonal control of secretion of enzymes in Gastrointestinal tract.
II	Physiology of Respiration	• Histology of trachea and lung; Transport of oxygen and carbon dioxide in blood. • Respiratory pigments, Dissociation curves and the factors influencing it; Carbon monoxide poisoning; Control of respiration.
III	Renal Physiology	• kidney and its functional unit; Mechanism of urine formation; Regulation of water balance; Regulation of acid-base balance.
IV	Blood	• Components of blood and their functions. • Structure and functions of haemoglobin; Blood groups: Rh factor, ABO and MN.
V	Physiology of Heart	• Structure of mammalian heart; Coronary circulation. • Structure and working of conducting myocardial fibers. • Origin and conduction of cardiac impulses Cardiac cycle; Cardiac output and its regulation, Frank-Starling Law of the heart, nervous and chemical regulation of heart rate. • Electrocardiogram, Blood pressure and its regulation.
		• Students can Determination of ABO Blood group. • Students can Enumerate red blood cells and white blood cells using haemocytometer. • Students can Estimate of haemoglobin using Sahli's haemoglobinometer. • Preparation of haemin and haemochromogen crystals. • Recording of blood pressure using a sphygmomanometer. • Students can Examine of sections of mammalian oesophagus, stomach, duodenum, ileum, rectum liver, trachea, lung, kidney.

Semester : IV
Paper title : **BIOCHEMISTRY OF METABOLIC PROCESSES**
Paper code : **ZOO-403H (CC-10)**

Units	Name of the Topic	Course Outcomes
I	Overview of Metabolism	• Students can understand and give answer different critical questions. • Compartmentalization of metabolic pathways, Shuttle systems and membrane transporters. • ATP as "Energy Currency of cell"; coupled reactions; Use of reducing equivalents and cofactors. • Intermediary metabolism and regulatory mechanisms
II	Carbohydrate Metabolism	• Glycolysis, Citric acid cycle, Phosphate pentose pathway, Gluconeogenesis, Glycogenolysis and Glycogenesis.
III	Lipid Metabolism	• Oxidation of saturated fatty acids with even and odd number of carbon atoms; Biosynthesis of palmitic acid; Ketogenesis.
IV	Protein Metabolism	• Catabolism of amino acids: Transamination, Deamination, Urea cycle; Fate of C-skeleton of Glucogenic and Ketogenic amino acids.
V	Oxidative Phosphorylation	• Redox systems; Review of mitochondrial respiratory chain, Inhibitors and un-couplers of Electron Transport System.
		• Able to estimate of total protein in given solutions by Lowry's method. • Able to detect of SGOT and SGPT or GST and GSH in serum/ tissue. • Can demonstrate enzymatic activity of Trypsin and Lipase. • Biological oxidation (SDH) [goat liver. • Can perform the Acid and Alkaline phosphatase assay from serum/ tissue. • Can trace the labelled C atoms of Acetyl-CoA till they evolve as CO2 in the TCA cycle.

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COURSE OUTCOMES

Gossaigaon College, Gossaigaon

Subject : **Zoology (HC)**
Semester : **V**
Paper title : **MOLECULAR BIOLOGY**
Paper code : **ZOO-501H (CC-11)**

Units	Name of the Topic	Course Outcomes
I	Nucleic Acids	• Students can understand and give answer different questions from Salient features of DNA and RNA Watson and Crick model of DNA.
II	DNA Replication	• DNA Replication in prokaryotes and eukaryotes, mechanism of DNA replication, RNA priming. • Replication of circular and linear ds-DNA, replication of telomeres.
III	Transcription	• RNA polymerase and transcription Unit, mechanism of transcription in prokaryotes and eukaryotes.
IV	Translation	• Genetic code, Degeneracy of the genetic code and Wobble Hypothesis. • Process of protein synthesis in prokaryotes: Ribosome structure and assembly in prokaryotes, fidelity of protein synthesis, Proteins involved in initiation, elongation and termination of polypeptide chain. • Inhibitors of protein synthesis; Difference between prokaryotic and eukaryotic translation.
V	Post Transcriptional Modifications and Processing of Eukaryotic RNA	• Structure of globin mRNA; Split genes: concept of introns and exons, splicing mechanism, alternative splicing, exon shuffling, and RNA editing.
VI	Gene Regulation	• Transcription regulation in prokaryotes: Principles of transcriptional regulation with examples from lac operon and trp operon. • Transcription regulation in eukaryotes: Activators, repressors, enhancers, silencer elements; Gene silencing, Genetic imprinting.
VII	DNA Repair Mechanisms	• Pyrimidine dimerization and mismatch repair.
VIII	Regulatory RNAs	• Ribo-switches, RNA interference, miRNA, siRNA.
		• Students can perform the practical work on. • Polytene chromosomes from Chironomous / Drosophila larvae. • Preparation of liquid culture medium (LB) and raise culture of E. coli. • Estimation of the growth kinetics of E. coli by turbidity method. • Demonstration of antibiotic sensitivity/resistance of E.

		coli to antibiotic pressure and interpretation of results. • Quantitative estimation of RNA using Orcinol reaction . Study and interpretation of electron micrographs/ photograph showing a) DNA replication b) Transcription c) Split genes

Semester : V

Paper title : RINCIPLES OF GENETICS

Paper code : ZOO-502H (CC-12)

Units	Name of the Topic	Course Outcomes
I	Mendelian Genetics and its Extension	• Students can understand and give answer different questions from Principles of inheritance. • Incomplete dominance and co-dominance, Multiple alleles, Lethal alleles, Epistasis, Pleiotropy, Sex-linked, sexinfluenced and sex-limited characters inheritance.
II	Linkage, Crossing Over and Chromosomal Mapping	• Linkage and crossing over, Cytological basis of crossing over, Molecular mechanisms of crossing over. • Recombination frequency as a measure of linkage intensity, two factors and three factor crosses. • Interference and coincidence, Somatic cell hybridization.
III	Mutations	• Types of gene mutations (Classification), Types of chromosomal aberrations. • Molecular basis of mutations in relation to UV light and chemical mutagens. • Detection of mutations: CLB methods, attached X method.
IV	Sex Determination	• Chromosomal mechanisms of sex determination in Drosophila and Man.
V	Extra-chromosomal Inheritance	• Criteria for extra-chromosomal inheritance, Antibiotic resistance in Chlamydomonas. • Mitochondrial mutations in Saccharomyces, Infective heredity in Paramecium and Maternal effects.
VI	Polygenic Inheritance	• Polygenic inheritance with suitable examples; simple numerical based on it.
VII	Recombination in Bacteria and Viruses	• Conjugation, Transformation, Transduction, Complementation test in Bacteriophage.
VIII	Transposable Genetic Elements	• Transposons in bacteria, Ac-Ds elements in maize and P elements in Drosophila, Transposons in humans.

IX		• Students can perform the practical works and understand the principles of Genetics. • Mendelian laws, Chi-square analyses. • Linkage maps based on data from conjugation, transformation and transduction. • Linkage maps based on data from Drosophila crosses. • Study of human karyotype (normal and abnormal). • Pedigree analysis of some human inherited traits.

Semester : V
Paper title : IMMUNOLOGY
Paper code : ZOO-D1HR (DSE-1)

Units	Name of the Topic	Course Outcomes
I	Overview of Immune System	• Students can understand and give answer different critical questions from. • Historical perspective of Immunology, Early theories of Immunology, Cells and organs of the Immune systeM.
II	Innate and Adaptive Immunity	• Anatomical barriers, Inflammation, innate immunity, Adaptive immunity, Passive. • Artificial and natural Immunity, Active: Artificial and natural Immunity, Immune dysfunctions. • Autoimmunity with reference to Rheumatoid Arthritis and tolerance, AIDS).
III	Antigens	• Antigenicity and immunogenicity, Immunogens, Adjuvants and haptens. • Factors influencing immunogenicity, B and T-Cell epitopes.
IV	Immunoglobulins	• Structure and functions of different classes of immunoglobulins. • Antigen-antibody interactions, Immunoassays (ELISA and RIA), Polyclonal sera, Hybridoma technology. • Monoclonal antibodies in therapeutics and diagnosis
V	Major Histocompatibility Complex	• Structure and functions of MHC molecules. Endogenous and exogenous pathways of antigen processing and presentation.
VI	Cytokines	• Properties and functions of cytokines, Therapeutics Cytokines.
VII	Complement System	• Components and pathways of complement activation.
VIII	Hypersensitivity	• Gell and Coombs' classification and brief description of various types of hypersensitivities.
IX	Vaccines	• Various types of vaccines.

		• Students can work out the experiments of demonstration of lymphoid organs. • Identification of Histological structure of Spleen, thymus and lymph node. • Preparation of stained blood film to study various types of blood cells. • ABO blood group determination. • Cell counting and viability test from splenocytes of farm bred animals/cell lines. • Demonstration of : a) ELISA b) Immunoelectrophoresis.

Semester : **V**

Paper title : **ANIMAL BIOTECHNOLOGY**

Paper code : **ZOO-D2HR (DSE-2)**

Units	Name of the Topic	Course Outcomes
I	Introduction	• Students can understand and give answer different critical questions from concept and scope of biotechnology.
II	Molecular Techniques in Gene manipulation	• Cloning vectors: Plasmids, Cosmids, Phagemids, Lambda Bacteriophage, M13,
III	Genetically Modified Organisms	• Cloned and transgenic animals: Nuclear Transplantation, Retroviral Method, DNA microinjection. • Applications of transgenic animals: pharmaceuticals, donor organs, knockout mice. • Production of transgenic plants: Agrobacterium mediated transformation. • Applications of transgenic plants: insect and herbicide resistant plants.
IV	Culture Techniques and Applications	• Animal cell culture, Expressing cloned genes in mammalian cells, Molecular diagnosis of genetic diseases Sickle cell anemia. • Recombinant DNA in medicines. • Recombinant insulin and human growth hormone, Gene therapy.

		• Students can perform practical work on Animal Biotechnology DNA isolation from E. coli. • Plasmid DNA isolation from E. coli. • Restriction digestion of plasmid DNA. • Techniques like- a) Southern Blotting b) Northern Blotting c) Western Blotting d) DNA Sequencing (Sanger's Method) e) PCR f) DNA fingerprinting. • Power point Presentation on Project report on animal cell culture.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon

Subject : **Zoology**
Semester : **VI**
Paper title : **DEVELOPMENTAL BIOLOGY**
Paper code : **ZOO-601H (CC-13)**

Units	Name of the Topic	Course Outcomes
I	Introduction	• Students will acquire knowledge on basic concept and historical perspective of developmental biology. • Gain knowledge on different phases of development, cell interactions, differentiation, cell growth and gen. •
E expressionII	Early Embryonic Development	• Gain knowledge on different aspects of early embryonic development like gametogenesis, spermatogenesis, oogenesis, types of eggs, fertilization, pattern of cleavages, blastula, gastrula, morula, fate maps, embryonic induction organizer and many others.
III	Late Embryonic Development	• Gain knowledge on different aspects of late embryonic development like fate of germ layers, extra-embryonic membrane, placenta types, structure, and functions.
IV	Post Embryonic Development	• Gain knowledge on different phases of post embryonic development like metamorphosis, regeneration and ageing.
V	Implications of Developmental Biology	• Gain knowledge on implications of development biology like teratogenesis, invitro fertilization, stem cell and amniocentesis etc.

		• Students can perform practical work on Animal Biotechnology DNA isolation from E. coli. • Plasmid DNA isolation from E. coli. • Restriction digestion of plasmid DNA. • Techniques like- a) Southern Blotting b) Northern Blotting c) Western Blotting d) DNA Sequencing (Sanger's Method) e) PCR f) DNA fingerprinting. • Power point Presentation on Project report on animal cell culture.

COURSE OUTCOMES

Gossaigaon College, Gossaigaon

Subject : **Zoology**
Semester : **VI**
Paper title : **DEVELOPMENTAL BIOLOGY**
Paper code : **ZOO-601H (CC-13)**

Units	Name of the Topic	Course Outcomes
I	Introduction	• Students will acquire knowledge on basic concept and historical perspective of developmental biology. • Gain knowledge on different phases of development, cell interactions, differentiation, cell growth and gen. •
E expressionII	Early Embryonic Development	• Gain knowledge on different aspects of early embryonic development like gametogenesis, spermatogenesis, oogenesis, types of eggs, fertilization, pattern of cleavages, blastula, gastrula, morula, fate maps, embryonic induction organizer and many others.
III	Late Embryonic Development	• Gain knowledge on different aspects of late embryonic development like fate of germ layers, extra-embryonic membrane, placenta types, structure, and functions.
IV	Post Embryonic Development	• Gain knowledge on different phases of post embryonic development like metamorphosis, regeneration and ageing.
V	Implications of Developmental Biology	• Gain knowledge on implications of development biology like teratogenesis, invitro fertilization, stem cell and amniocentesis etc.

VI	Practical	• Will practically do and learn whole mount preparation of cleavage stages, blastula, gastrula etc. • Will practically do learn whole mount preparation of chick embryo through primitive streak at different hours of incubation. • Study development and life cycle of Drosophilla by culturing in the laboratory condition. • Learn to prepare project report on chick embryo development.

Semester : VI

Paper title : EVOLUTIONARY BIOLOGY
Paper code : ZOO-602H (CC-14)

Units	Name of the Topic	Course Outcomes
I	Life's Beginnings:	• Students will gain knowledge on the chemosysthetic origin of life. • Students will gain knowledge on the biological origin of life. • Students will gain knowledge on the photosynthesis leading to origin of early life. • Ultimately how unicellular or eukaryotes originated on earth.
II	Historical review of evolutionary concept:	• Students will acquire knowledge on organic evolution and its role in the origin of species. • Knowledge on various evolutionary theories will help students to better understand how the present state of the earth came into being and along with it various living species originated and which way the earth is heading to in future a conceptual view.
III	Evidences of Evolution:	• Students will acquire knowledge on various evidences that organic evolution happened on this earth and it is a continuous process. • Will gain knowledge on fossils and its replica on various rocks serving as a perfects evidence of organic evolution. • Will be able to understand that evolution at the molecular level leads to origin better adapted new species on this earth.
IV	Sources of variations:	• Students will gain knowledge on various sources of evolution like heritable variation and non heritable variation and their role in evolution.

V	Population genetics:	• Students will acquire knowledge on the Hardy-Weinberg Law and its application in human population genetics. • Will help students to understand how evolutionary forces deviate the H-W Law also deviate ecological equilibrium leading to human population instability and thereby ecological imbalances. • Various aspects of natural selection, role of migration and mutation in changing allele frequencies.
VI	Product of evolution:	• Will gain knowledge on different parametric outcomes of evolution like micro-evolution and macro-evolution.
VII	Extinctions	• Students will understand regarding extinction and the causes and effects of mass extinction on species.
VIII	Origin and evolution of man,	• Will able to understand how origin and evolution of human occurred. • How human characteristics contrasted with primates leading to Homo sapiens. • Molecular analysis of human will help students to know who his closest ancestry is.
IX	Phylogenetic trees, Multiple sequence alignment, construction of phylogenetic trees, interpretation of trees	• Concept on the construction of phylogenetic tree will help student to understand better and interpret in more scientific way.
X	Practical	• Practically how to study fossils from model/pictures. • Hands on study of homologus and analogus organs. • Practically verify the Hardy- Weinberg Law by application of Chi- square analysis. • Practically demonstrate the role of natural selection and genetic drift in changing allele frequencies. • How to represent graphically and interpret data of human height/weight in relation to age and sex of 100 samples. • How to construct phylogenetic tree with the help of bio-informatic tools and interpret it.

Semester : VI
Paper title : FISH AND FISHERIES
Paper code : ZOO-D3H (CC-14)

Units	Name of the Topic	Course Outcomes
I	Introduction & Classification	• Can acquire knowledge on general Body parts of the fish and the system of fish classification. • Learn about the feeding habit and the manner of fish reproduction.

II	Morphology and Physiology	• Learn about different body parts of fish and their modifications suited to aquatic mode of life. • Learn about different types scales it uses in classification and in determining ages of fish. • Fish migration, reproductive strategies of fishes are very interesting to learn about.
III	Fisheries	• Under this section students will learn about the applied part of fishery that is inland fishery, marine fishery and culture fishery and capture fishery also about various environmental factors influencing the seasonal variations in fish catching.
IV	Aquaculture	• In this section students will learn about different aspects of fish culture like poly culture, integrated fish culture, cage culture, composite culture and others. • Students will also learn about the preparation and maintenance of fish ponds, harvesting, preservation and processing of fish products.
V	Fish in Research	• Here students will learn about the scope and the future of production of transgenic fish as for instance Zebra fish which may pave way for breeding many more transgenic fishes through undertaking research activities.
VI	Practical	• Practically will be able to study meristic and morphometric characters of fish and its importance in fish biology. • Methods of fish identification through preserved fish specimen. • Know different types of fishing gears. • How to determine water quality for fish culture. • Mechanism of induced breeding in fish seed production. • Project report writing on fish farm/pisciculture unit etc.

Head
Department of Zoology
Gossaigaon College, Gossaigaon

Semester : VI
Paper title : ENDOCRINOLOGY
Paper code : ZOO-D4H (CC-14)

Units	Name of the Topic	Course Outcomes
I	Introduction To Endocrinology	• Acquire knowledge on recent trends of historical development of endocrinology as an emerging branch of science. • Get idea on different types of endocrine organs their location in the human body • Get idea on different types of hormone secreted by endocrine glands and its physiological functions in human system. • Acquire knowledge on characteristics, composition and nature of hormone and also their specificity in action. • Can understand about the neurohormones and neurosecretory activities in human body.
II	Epiphysis and Hypothalamo-Hypophysial Axis	• Can understand the position, structure, their secretions and functions in biological rhythms and reproduction. • Can understand the position, structure and role of hypothalamus as the super master gland in human body. • Will know the causes of pituitary disorder.
III	Peripheral Endocrine Gland	• Acquire knowledge on the structure, hormones, futions and regulatory mechanisms of thyroid,parathyroid, adrenal, pancrease, ovary and testes. • Will also know various disorders of endocrine glands.
IV	Regulation of Hormone Action	• Will gain knowledge on various mechanisms of hormone actions at cellular level, molecular level and also about the genetic regulation of hormone action.
V	Practical	• How to dissect and display endocrine gland of lab. bred rat. • Will study Structure of various endocrine glands through the permanent slides under the light microscope. • Learn experimental designing of primers of any hormone.

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Geography has duly completed the prescribed course meant for B.A./B.Sc odd semester, Batch 2021, as per the syllabus content both theory and practical.

Date: 28 / 05 / 2021

HOD,
Department of Geography
Gossaigaon College

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Geography has duly completed the prescribed course meant for B.A./B.Sc even semester, Batch 2021, as per the syllabus content both theory and practical.

Date: 15 / 11 / 2021

HOD,
Department of Geography
Gossaigaon College

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of English has duly completed the prescribed course meant for B.A odd semesters, Batch 2021, as per the syllabus in all aspect.

Paparí Kakati
HOD
H. O. D. English
Gossaigaon College

Date: 28/ 05 / 2021

Department of English

Gossaigaon College

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of English has duly completed the prescribed course meant for B.A even semesters, Batch 2021, as per the syllabus in all aspect.

H. O. D. English
Gossaigaon College
Paparí Kakati
HOD

Date: 15/ 11 / 2021

Department of English

Gossaigaon College

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Bodo has completed the course content meant for B.A, all odd Semesters, Batch 2021, as per the prescribed scheme of study in all aspect in due time.

HOD

Date: / 05/ 2021

Department of Bodo

Gossaigaon College

Head
Deptt. of Bodo
Gossaigaon College

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Bodo has completed the course content meant for B.A, even Semesters, Batch 2021, as per the prescribed scheme of study in all aspect in due time.

HOD

Date: / 11/ 2021

Department of Bodo

Gossaigaon College

Head
Deptt. of Bodo
Gossaigaon College

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Assamese has duly completed the prescribed course meant for B.A odd semesters, Batch 2021, as per the syllabus in all aspect.

HOD

HEAD
Dept. of Assamese
Gossaigaon College,Gossaigaon

Date: 20/ 05 / 2021

Department of Assamese

Gossaigaon College

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Assamese has duly completed the prescribed course meant for B.A even semesters, Batch 2021, as per the syllabus in all aspect.

HOD

HEAD
Dept. of Assamese
Gossaigaon College,Gossaigaon

Date:18/ 11 / 2021

Department of Assamese

Gossaigaon College

COURSE COMPLETION CERTIFICATE

It is to hereby certified that the Course of study for B.A odd semesters in the subject Political Science, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

HOD

Date: 24 05 / 2021

Department of Political Science

Gossaigaon College

COURSE COMPLETION CERTIFICATE

It is to hereby certified that the Course of study for B.A even semesters in the subject Political Science, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

HOD

Date: 17/ 11 / 2021

Department of Political Science

Gossaigaon College

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Physics has duly completed the prescribed course meant for B.Sc odd semesters, Batch 2021, as per the syllabus content both theory and practical.

HOD

Department of Physics

Gossaigaon College

Date: / 05 / 2021

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Physics has duly completed the prescribed course meant for B.Sc even semesters, Batch 2021, as per the syllabus content both theory and practical.

HOD

Department of Physics

Gossaigaon College

Date: / 11 / 2021

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Economics has duly completed the prescribed course meant for B.A odd semesters, Batch 2021, as per the syllabus content in all aspect.

Date: 11 / 05 / 2021

HOD
Department of Economics
Gossaigaon College
HEAD
Department of Economics
Gossaigaon College, Gossaigaon

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Economics has duly completed the prescribed course meant for B.A even semesters, Batch 2021, as per the syllabus content in all aspect.

Date: 05 / 11 / 2021

HOD
Department of Economics
Gossaigaon College
HEAD
Department of Economics
Gossaigaon College, Gossaigaon

COURSE COMPLETION CERTIFICATE

It is certified that the Course meant for B.Sc odd semesters in the subject Botany, Batch 2021, is duly completed as per the prescribed syllabus both theory and practical.

HOD
Department of Botany

Gossaigaon College

Date: 10/ 05 / 2021

Head of the Department
Botany
Gossaigaon College, Gossaigaon

COURSE COMPLETION CERTIFICATE

It is certified that the Course meant for B.Sc even semesters in the subject Botany, Batch 2021, is duly completed as per the prescribed syllabus both theory and practical.

HOD

Department of Botany

Gossaigaon College

Date: 03/ 11 / 2021

Head of the Department
Botany
Gossaigaon College, Gossaigaon

COURSE COMPLETION CERTIFICATE

It is to hereby certified that the Course of study for B.Sc odd semesters in the subject Chemistry, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

28/05/2021

HOD

Department of Chemistry

Gossaigaon College

Date: 28/ 05 / 2021

HOD, Chemistry
Gossaigaon College, Gossaigaon

COURSE COMPLETION CERTIFICATE

It is to hereby certified that the Course of study for B.Sc even semesters in the subject Chemistry, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

28/11/2021

HOD

Department of Chemistry

Gossaigaon College

Date: 28/ 11 / 2021

HOD, Chemistry
Gossaigaon College, Gossaigaon

COURSE COMPLETION CERTIFICATE

It is hereby certified that the Course of study for B.A odd semesters in the subject Philosophy, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

06/05/2021

HOD

Department of Philosophy

Gossaigaon College

Date 09 / 05 / 2021

Head
Department of Philosophy
Gossaigaon College

COURSE COMPLETION CERTIFICATE

It is hereby certified that the Course of study for B.A even semesters in the subject Philosophy, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

09/11/2021

HOD

Department of Philosophy

Gossaigaon College

Date 09 / 11 / 2021

Head
Department of Philosophy
Gossaigaon College

COURSE COMPLETION CERTIFICATE

It is to hereby certified that the Course of study for B.Sc all odd semesters in the subject Mathematics, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

14/05/2021
HOD

Date: 07 05 / 2021

Department of Mathematics

Gossaigaon College

Head of the Department
MATHEMATICS
Gossaigaon College,Gossaigaon

COURSE COMPLETION CERTIFICATE

It is to hereby certified that the Course of study for B.Sc, all even semesters in the subject Mathematics, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

14/11/2021
HOD

Date: 05/11 / 2021

Department of Mathematics

Gossaigaon College

Head of the Department
MATHEMATICS
Gossaigaon College,Gossaigaon

COURSE COMPLETION CERTIFICATE

It is to hereby certified that the Course of study for B.A all odd semesters in the subject Education, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

Dr Labanya Lahkar Lahkar.

HOD

Department of Education

Gossaigaon College

Date: 06/ 05/ 2021

DEPARTMENT OF EDUCATION ESTD. 1971 Date..... GOSSAIGAON COLLEGE, GOSSAIGAON

COURSE COMPLETION CERTIFICATE

It is to hereby certified that the Course of study for B.A, all even semesters in the subject Education, Batch 2021, is completed as per the prescribed syllabus in all aspect in due time.

Dr Labanya Lahkar Lahkar.

HOD

Department of Education

Gossaigaon College

Date: 09/ 11 / 2021

DEPARTMENT OF EDUCATION ESTD. 1971 Date..... GOSSAIGAON COLLEGE, GOSSAIGAON

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Zoology has completed the course content meant for B.Sc, all odd Semesters, Batch 2021, as per the prescribed scheme of study in all aspect in due time.

HOD

Department of Zoology

Gossaigaon College

Date: 29/ 05 / 2021

Head
Department of Zoology
Gossaigaon College, Gossaigaon

COURSE COMPLETION CERTIFICATE

This is to certify that the Department of Zoology has completed the course content meant for B.Sc, all even Semesters, Batch 2021, as per the prescribed scheme of study in all aspect in due time.

HOD

Department of Zoology

Gossaigaon College

Date: 27/ 11 / 2021

Head
Department of Zoology
Gossaigaon College, Gossaigaon

EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF ....Geography..... **MONTH** ..... **SESSION** .....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: .....
ay Basumatary	BA 1st Sem (M) Nature of Geography 2) BA 3rd Sem (M) Nature of Cartography 3) MA/MSc 3rd Sem Definition of Research	BA 1st Sem (M) Scope of Geography BA 5th Sem (M) Introduction and nature of Cultural Geography MA/MSc 3rd Sem Essential Teaching Skills	DBA 1st Sem (M) Geography as a Spatial Science 2) BA 3rd Sem (M) Scope of Cartography MA/MSc 3rd Sem Purpose of Scientific Research	BA 5th Sem (M) Scope of Cultural Geography MA/MSc 3rd Sem objectives of Scientific Research	BA 5th Sem (M) Concept of Society MA/MSc 3rd Sem Meaning and Need of Research Design BA 5th Sem (DSC/GEM)	BA/BSc 3rd Sem (M) Early origin of Geographical Thinking (Classical Greek) BA 5th Sem (M) Concept of Culture & Race
shab Ch. Nargary	BA 1st Sem (M) Relation of Geo. with Natural Science BA 5th Sem (M) Introduction and nature of Urban Geo. Concept of Region & Regional Development	BA/BSc 3rd yr. (M) Environmental determinism MA/MSc 3rd Sem Questionnaire Design	BA 5th Sem (M) Possibilism MA/MSc 3rd Sem Data collection	BA/BSc 1st Sem (M) Relation of Geography with Social Science BA 5th Sem (M) Scope of Urban Geography MA/MSc 3rd Sem Sampling	BA 3rd Sem (M) Dichotomies: Systematic & Regional BA 5th Sem (M) Pattern of urbanisation in developed countries.	BA/BSc 1st Sem DSC/GE Composition of Atmosphere MA/MSc 3rd Sem Data processing and Analysing
onnika Das	(I) T.D.C-III (M) Soil introduction (II) T.D.C-V (M) Settlement Geography	(I) T.D.C-III GE/DSC. Introduction to physical Geography. (II) TDC-I GE/DSC. Introduction to Geography. (III) TDC-V (M) Settlemal Geography	(I) TDC-(V) Sem (M) Nature and Scope of Settlement Geography (I) TDC-III Sem (M) Soil introduction	(I) HS-I Geography of India. (II) TDC-III (M) Soil classification	(I) H.S-2nd year. Human Geography. (II) TDC-(V) M Settlement nature	(I) TDC-I (M) Earth crust. (II) TDC-III SEC Physical Geography

4. Subrata Sarkar [signature]	(1) TDC, 5th Sem, (M) Remote Sensing & GIS (2) TDC-3rd Sem(M) climatology. (3) PG, 3rd Sem, Remote Sensing & GIS	(1) TDC-5th Sem, (M) Remote Sensing & GIS (2) TDC-1st Sem(M) Understanding Geography (3) PG 3rd Sem, RS & GIS	(1) H.S. 2nd year. Human Geography (2) PG, 3rd Sem RS & GIS (3) TDC-DSE/GE 5th Settlement Geography	(1) TDC-5th Sem(SEC) Urban and Culture geog. (2) PG 3rd Sem, RS & GIS (3) TDC. 1st Sem Understanding Geo.	(1) TDC-3rd Sem, (M) Climatology (2) TDC-1st Sem(M) Understanding Geo. (3) PG 3rd Sem, RS & GIS.	(1) TDC-5th Sem(M) RS & GIS (2) TDC-3rd Sem(M) Climatology (3) PG 3rd, Sem RS & GIS
Tinku Roy [signature]	1. H.S 1st year Physical Env. 2. T.D.C 5th sem (M) Regional Planning & Development	1. TDC 3rd Sem (M) Population and Settlement Geography 2. PG 3rd Sem Regional Planning & Development 3. T.D.C 5th Sem (GE) Soil & Biogeography	1. H.S 1st year Physical Env. 2. T.D.C 3rd sem (M) Population & Settlement Geography. 3. PG 3rd Sem Regional Planning & Development 4. T.D.C 5th Sem (M) Soil & Biogeography	1. TDC 1st Sem (M) Geomorphology 2. P.G 3rd Sem Regional Planning & Development 3. T.D.C 3rd Sem (GE) Human Geography	1. P.G 3rd Sem Regional Planning & Development 2. T.D.C 5th Sem (M) Soil & Biogeography 3. T.D.C 3rd Sem (M) Climatology	1. H.S 2nd Year Human Geography 2. T.D.C 1st Sem (M) Geomorphology 3. T.D.C 5th Sem Soil & Biogeography

[signature]
Head
Dept. of Geography
Head
Department of Geography
Goreswar College, Goreswar

EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF PHYSICS **MONTH** ..... **SESSION** .....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: .....
...ash Barman	B.Sc. I Sem Inertial frames Galilean Transformation B.Sc. III Sem zeroth Law of Thermodynamics B.Sc. V Polarization	B.Sc I Sem Projectile motion B.Sc II Sem work and heat relation B.Sc. V Sem Electric Susceptibility Polarizability	B.Sc I Sem Centre of Mass B.Sc. III First Law of Thermodynamics B.Sc. V Sem. Clausius Mosotti equation.	B.Sc I Sem Conservation of momentum, Impulse B.Sc. III Adiabatic & Isothermal Process B.Sc. V Sem Electric Polarizability	B.Sc. I Sem Work energy relation III B.Sc. Relation between C_p & C_v V Sem Normal and Anomalous Dispersion	B.Sc I Sem Conservative and non conservative force B.Sc. III Sem Work done during Isothermal Process. B.Sc V Sem Langevin - Debye equation
...nam Sarkar ...Sarkar	B.Sc. I Sem Non-inertial frame B.Sc. III Sem Reversible and Irreversible Process. BSC V Crystalline Material	B.Sc. I Sem Michelson-Morley experiment B.Sc. III Conversion work into Heat Heat Engine BSc V Sem Lattice Translation	B.Sc. I Sem Special Theory of Relativity. B.Sc. III Carnot Cycle. BSc V Sem Unit Cell, Miller Indices	B.Sc. I Sem Lorentz Transformation Time dilation. BSc III efficiency of engine B.Sc. V Sem Reciproced Lattice	B.Sc. I Sem Relativistic transformation of velocity BSc III Sem Refrigerator BSc V Sem Brillouin Zones	B.Sc. I Sem Variation of mass with velocity B.Sc. III Sem and law of Thermodynamics. VSem Diffraction of X Rays
...thang Brahma 21	GE 1st Sem Newtons laws of Gravitation. GE 3rd Sem Black body radiation - 3rd Sem SEC - Concept of Workshop practice	GE 1st Sem Variation of 'g' due to altitude and height. GE 3rd Sem - Spectral Distribution and concept of energy density	GE 1st Sem Variation of 'g' due to latitude GE 3rd Sem - Derivation of Planks laws. 3rd Sem SEC - Manufacturing method.	GE 1st Sem Concept of central force. GE 3rd Sem - Deduction of Wiens displacement law. 3rd Sem SEC - Forming & Welding	GE 1st Sem Conservation of angular momentum GE 3rd Sem - Rayleigh Jeans laws. 3rd Sem SEC - Types of welding joints.	GE 1st Sem Astronomical Keplers laws. GE 3rd Sem - Stefan's Boltzmann law from planks law.

Sanjay Narayan Barman (signature)	B.Sc 1sem: Concept of limit and continuity. B.Sc. 3rd Sem: Concept of order and degree of LDE. B.Sc. 5th Sem: Role of Schrodinger eqn in Quantum Mechanics and concept of wave function.	B.Sc. 1st Sem: Numericals on limits and continuity. B.Sc 3rd Sem: Concept of Singular pt. and its type in 2nd order LDE. B.Sc 5th Sem: Concept of wave function probability and probability current density in three dimension.	B.Sc 1st Sem: Numericals on special forms of limit (standard form). B.Sc 3rd Sem: Concept of Forbenious method to solve 2nd order diff. equation having 0 as regular singular points. B.Sc 5th Sem: Normalisation of wave function.	B.Sc 1st Sem: Concept of different and plotting of graph. B.Sc 3rd Sem: Numerical on Forbenious method. B.Sc 5th Sem: Concept of operators and commutator of position and momentum operator.	B.Sc 1st Sem: Concept of Diff eqn of order and degree of Diff eqn. B.Sc. 3rd Sem: Numericals on Forbenious method. B.Sc 5th Sem: Concept of expectation value of position and momentum	B.Sc 1st Sem: Different method to solve 1st order LDE. B.Sc 3rd Sem: Numericals on Forbenious method. B.Sc. 5th Sem: continue class of position expectation value & momentum.

Head of the Department of Physics ... College

Head

Dept. of physics

EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF ....BOTANY.............. **MONTH** .... **SESSION** ....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: ....
...jit Kr. ...nezary (signature)	1st Sem (GE) Thallus organisation and ecology	5th Sem (H) Principles of microscopy	1st Sem (Honours) Proteins its structures. 5th Sem (H) ds-DNA,	3rd Sem (Honours) Plant water relationship	5th Sem (Honours) DNA structure replication.	1st Sem (GE) Cyanophyta (Nostoc) 5th (H) Lac operon
...eswar ...umatary Basumatary	3rd Sem (Honours) Tissues, Simple and Complex	5th Sem (H) Cell cycle 3rd Sem. Chromosome theory of inheritance	3rd Sem (H) Biometrics, Cladistics	3rd Sem (H) Classification, Bentham and Hooker 1st Sem (Honours) Phaeophyta (Ectocarpus)	5th Sem (Honours) Transcription 3rd Sem (GE) Mineral nutrition	3rd (H) Evolution of new crops. 1st Sem (H) Nuclear lamina
...mima ...sha Basumatary (signature)	5th Sem (M) Cell organelles 1st Sem (M) Viruses	1st Sem Honours Carbohydrates 3rd Sem (GE) Mendelian Genetics	5th Sem (GE) Origin of cultivated plants.	5th Sem (GE) General account of Gram and soyabean	1st Sem (Hons) Gene regulation	3rd Sem (H) Extra chromosomal inheritance

- P. Basumatary
Head of the Department
Botany
Gossaigaon College, Gossaigaon

Head
Dept. of .....BOTANY

P. Barmatary

EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF ..... MONTH ..... SESSION .....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: .....
	1st Class with 1st Sem. Hons Topic: Vyasa: The Dicing 2nd Class with 1st Sem. Lg. Eng Our Behaviour By Nirad C Chaudhury	1st Class with 1st Sem Gen Eng. 'Dawn at Puri'. 2nd Class with 3rd Sem. Major: Chaucer and Narrative Poetry.	1st Class with 3rd Sem. Hons Restoration Period. 2nd Class with 1st sem Gen. Eng. Grammar Practice	1st Class with 1st Sem Major: Continuation of the previous class. 2nd Class with 3rd Sem. Major: 18th Century Novel.	1st Class with 3rd Sem. Major: The Irish drama. 2nd Class with 1st Sem Major: Sudraka's Mrichchhakatika.	1st Class with 3rd Sem. Major: The Gothic Novel 2nd Class with 1st Sem Gen. Voice Change Practice.
	1st class with 1st sem (H) Topic – Through the looking Glass. 2nd class with 5th sem (H) Topic – The formation of the Intellectual.	1st class with 5th sem (H) Topic – Hegemony 2nd class with 1st sem Topic – The Plaid	1st class with 5th sem (H) Topic – Ideology and Ideological State Apparatuses. 2nd class with 3rd sem (H) Topic – The Murders of the Ackroyds.	1st class with 5th sem (H) Topic – Twenty years on A Literature of their own Revisited. 2nd class with 1st sem Topic – Oedipus the King	1st class with 1st sem (H) Topic – Pot of Gold 2nd class with 3rd sem Topic – Construction of The Murders of the Ackroyds.	1st class with 5th sem (H) Topic – When the Goods Get Together 2nd class with 3rd Sem Topic – Funny Boy
	1st class with 5th sem (HE) Topic: Tradition and Individual Talent 2nd class with 3rd sem (H) Topic: American Literature	1st class with 3rd sem Topic: Beloved, black women's writing 2nd class with 5th sem Topic – Literary Criticism	1st class with 3rd sem Topic – caste, Gender and Identity 2nd class with 5 semester (HE) Topic – Principles of Literary Criticism	1st class with 3rd Semester Topic – The mock epic and Satire 2nd class with 5th sem Topic – Gramsci the Formation of Marxism and Hegemony	1st class with 3rd sem Topic – Preface to lyrical Ballads 2nd class with H.S 1st year Grammar – Tense, sentence structure	1st class with 1st sem Topic – Catharsis and Mimesis 2nd class with 5th sem Topic – post structuralism by Jacques Derrida

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Nita Kumari.	1st class with H.S. 2nd Year. Topic - Lost Spring. and class with 1st Semester AECC Topic - Communication	1st class with H.S. 2nd Year. Topic - Continuation of Lost Spring. and class with 1st Semester AECC. Topic - Continuation of Communication	1st class with H.S. 2nd Year. Topic - Keeping Quiet. and class with 1st Semester AECC Topic - Continuation of Communication	1st class with H.S. 2nd Year. Topic - Continuation of Keeping Quiet and class with 1st Semester AECC Topic Monologue and its types	1st class with H.S. 2nd Year Topic - Going Places	1st class with H.S. 2nd Year. Topic - Continuation of Going places. and class with 1st Semester AECC. Topic - Continuation of Monologue
Sabina Basumatary	1st class with H.S 1st year. Topic - The Portrait of a Lady 2nd class with H.S 2nd year. Topic - The Verger	1st class with H.S 1st year Topic - Continuation of The Portrait of a Lady 2nd class with H.S 2nd year. Topic - Seeta	1st class with H.S 1st year Topic - A Photograph 2nd class with 1st Semester Topic - Oedipus the King	1st class with H.S 1st year. Topic - (All) Caged Bird. 2nd class with 2nd year (All) Topic - Odysseus of Egypt.	1st class with 1st sem. Topic - Elements of Tragedy. 2nd class with H.S 1st year Topic - Landscape of the Soul	1st class with H.S 1st year Topic - Continuation of 'Landscape of the Soul' 2nd class with H.S 1st year Topic - On Going Place.

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EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF Philosophy MONTH ..... SESSION .....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: .....
ngsuma ahma	11:00 A.M C-2: Definition of argument 2:00 PM C-6: Immanuel Kant; on Enlightenment.	11-00 AM PHI-HE-5016 Relation to Vedas 1:00 PM C-6: Kant'an Enlightenment.	10-00 AM DSC/GE-3: General characteristics of Indian Philosophy 1:00 PM C-6: I. Berlin's Two concepts of Liberty	9:00 AM PHI-HE-5016: General Social condition of Upanisadic period; 11:00 AM C-2: Truth and validity.	11-00 AM DSC/GE-1: Proposition and Sentence. 12-00 AM C-6: Berlin's two concepts of Liberty	11-00 AM DSC/GE-1: Argument and inference. 1:00 PM C-6: What is Equality.
ejira Marandi	10.00 AM C1: Cārvaka Metaphysics and 12:00 pm GE1: Term and Distribution of Terms	10:00 Am C1: Cārvāka Epistemology 12:00pm PHI-HE-5026 Law of karma	9:00 AM C8: Pratyaksa (Perception, kinds) 10:00 AM C1: Early Buddhism	11:00 Am C1: Four Noble Truths and Doctrine of Dependent origination 9:00AM PHI-HE-5026 Concept of Karma	10:00 AM C1: Jainism: Anekantavada 1.00 PHI-HE-5026 Concept of Akarma	11:00AM PHI-HE-5026 Freedom and choice Anumana 12:00 AM C1: Syādvada
ala unatary	9:00 AM GE3: Introduction Bioethics. 1:00 P.M PHI-HC-5016 Introduction of Moore	10:00 A.M C5: Introduction of Descartes... 12:00PM C1: Introduction to Indian Philosophy	9:00 AM C5: method of doubt mind body dualism. 12:00 AM C1: Features of Indian Philosophy	10:00 AM C5: method of doubt mind body dualism. 1:00 P.M PHI-HC-5016 The Analytic turn of Philosophy	12:00 AM PHI-HC-5016 The Analytic turn of Philosophy 12:00 P.M C1: Features of Indian Philosophy.	9:00 AM PHI-HC-5016 Refutation of Idealism 10:00 AM C1: Features of Indian Philosophy

For Head 01/02/23
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Ringshat Basumatary	C-7 (10.00 to 11.00) • Punishment - PHI-HC-5026 (12.00 to 1.00) - Subjectivity and Truth.	PHI-HC-5026 (9.00-10.00) Intentionality and Bracketing GE-1 (1.00-2.00) venn Diagram	C-7 (1.00-2.00) - Environmental Ethics.	PHI-HC-5026 (9.00-10.00) The three stages of human existence GE-1 (10.00-11.00) Symbolization	C-7 (9.00-10.00) Nature as Means or End. PHI-HC-5026 (1.00-2.00) Freedom and choice	C-7 (10.00-11.00) Medical Ethics PHI-HC-5026 (11.00-12.00) Theory of essence Sec-1 (1.00-2.00) Critical Thinking and its components

Head
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For 01/02/23
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Department of Philosophy
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EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF ...Mathematics... **MONTH** .... **SESSION** ....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: ....
Manoj Kumar Sah	C1: Technique of Sketching C7: Solving Heat Conduction problem. C-11 Mass and Lord	C1: Techniques of sketching C-7 Heat conduction problem C-11 Mass and Cord	Limit of Continuity (Leibnitz's thm) S-2: Spheres C-11 - Fundamental thm	C-7 System of linear differential diff eqn C-11 Conservative vector fields	C1: Technique of sketching C-11 Conservative vector field.	S2- Cylindrical Surfaces C-11 Conservative vector fields independent of paths
[illegible] Daimary	C-1:- Continuity of vector function. C-5:- Cauchy's mean value theorem DSE-1:- Eulers phi-function	C-1: Differentiation of vector function. C-5: Taylor's thm. DSE-1: Eulers thm.	GE-1:- Rolles thm. GE-3: Cauchy's thm. on limits. DSE-1: Reduced set of residues.	C-1: Differentiation of vector function C-5: Taylor's thm. with Cauchy's form of remainder	GE-1: Mean value theorems C-5: Taylor's Series	C1: Integration of vector function C-5: Maclaurin's series
[illegible] Ranjan [illegible]	5th Sem Automorphism 3rd Sem Symmetries of Square	5th Sem Automorphism 1st Sem Derivatives.	3rd Sem Dihedral group. 5th Sem Automorphism Gp.	5th Sem Automorphism of graph. 1st Sem. Hyperbolic fun.	1st Sem Leibnitz theorem 3rd Sem. Defn and example of group.	5th Sem External direct product of group 3rd Sem Properties of group.

Head of the Department
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DEPARTMENT OF .... MONTH .... SESSION ....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: ....
Niranjan Kumar Brahma	1st Sem (Major) Topic - Protista 3rd Sem (HC) Topic - Mammal classification	3rd Sem GE Endocrine glands structure 5th Sem HC DSE-I Immune System 3rd Sem HC (Pract) Dissection Prawn Head	5th Sem DSE-1 Organs of immune system. 5th Sem GE innate immunity 1st Sem CC-2 Population	3rd Sem CC-5 Prototheria 3rd Sem SEC-1 Sericulture	1st Sem CC-1 Locomotion in protista 5th Sem CC-11 DNA Replication	5th Sem CC-12 Linkage 1st Sem CC-1 Reproduction in protista. 5th Sem (practical)
... Dutta	3rd Sem (GE.) Digestion 5th Sem (HC) CC-11 - Genetic code	5th Sem HC CC12 Gene Mutation 1st Sem GE Annelida classification 5th Sem GE (Pract) Histology - spleen, thymus.	3rd Sem CC-7 Carbohydrate structure. 1st Sem CC-1 Platyhelminthes classification -	5th Sem CC-11 Protein Synthesis 5th Sem CC-12 Chromosomal abberation 5th Sem GE Antibodies	5th Sem DSE-1 Immunoglobulin 3rd Sem GE Digestive glands 3rd Sem HC (practical) Microtomy	5th Sem DSC-2 cDNA library 5th Sem GE Monoclonal antibody.
Daud Chandra Baro	5th Sem (HC) CC-12 Trans posonin bacteria 5th Sem DSE-2 - Clone, Transgenic animals	1st Sem HC Cnidaria classification 5th Sem HC CC-11 Transcription	3rd Sem HC (CC-6) Muscle types 5th Sem CC-12 Transposon 5th Sem Practical Histology, Permanent Slides	3rd Sem GE Respiration 1st Sem CC-1 Coral reef 1st Sem GE Polymorphism	5th Sem CC-12 Conjugation & transformation 1st Sem GE platyhelminthes 5th Sem GE (practical)	1st Sem CC-2 Species richness. 5th Sem CC-11 Operon concept.

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Chindeep Islary Ep. [signature]	1ST Sem. GE Classification of Porifera 1ST Sem HC (P) Museum Specimen - Protozoa Porifera	3rd Sem HC (CC-5) Reptiles 1st Sem HC (CC-2) Ecosystem types.	5th Sem CC-11 DNA repair mechanism. 1 sem GE Canal system 1st Sem Practical	3rd Sem CC-6 Hormone 3rd Sem CC-7 Nucleic Acid 3rd Sem practical	5th Sem GE Vaccines. 5th Sem DSE-2 Animal Cell Culture	3rd Sem CC-5 Snake bitting mechanism. 3rd Sem CC-6 Axon potential

Head

Dept. of ....

Department of Zoology, Gossaigaon College, Estd. 1971

[signature]
Head
Department of Zoology
Gossaigaon College, Gossaigaon

EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF POLITICAL SCIENCE MONTH ..... SESSION .....

DEPARTMENT OF POLITICAL SCIENCE ESTD. 1971 Date..... GOSSAIGAON COLLEGE

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: .....
Dilip Kur Das.	I-Sem: Fundamental Rights III Sem: Bureaucratic Theory V Sem: British Queen or King	I-Sem: Right to Freedom III Sem:- characteristics of Bureaucracy V Sem: British P.M	I Sem (G): Rights III Sem; Scientific Management theory V Sem:- British cabinet.	I Sem (H): Right to Religion III Sem (H):- Principles of Scientific Management. V Sem:- Principles of Cabinet System	I st Sem (H): Right to Equality and Constitutional Remedies III Sem (H) Human Relation Theory. V (H):- British Parliament.	I st Sem: Fundamental Duties. III: Principles of Human Relation theory. V: House of Lords & Commons.
Nainy	I Sem: Indian executive Introduction. III Sem:- comparative Politic. Introduce V Sem:- Brahmanic	I Sem:- President election, procedure III Sem:- comp. Politic nature scope. V) Sem: Shramanic	I Sem:- President Powers. III Sem:- comparative Politic evolution V Sem:- Islamic	I Sem:- Prime Ministers III Sem:- comp. Politic. Euro-centrism. V Manu	I Sem:- Cabinet III Sem:- comp. Govt and comp. Politic difference V Sem:- Manu Social Law	I Sem:- Supreme court. III Sem:- Socialist V Sem:- Manu and women.
BL CHARA HARMA	BA I st Sem: Definition of Politics. BA. III Sem:- Definition of International relation BA. V Sem:- Significance of Human Rights	BA. I st Sem Meaning of Political Theory. BA. 3rd Sem: Evolution of study of International relation BA. 5th Sem: three Generation of Human Rights.	BA. 1st Sem:- Scope of Politics. BA 3rd Sem:- International relation Pre west Phalia BA 5 th Sem:- Universal approach	BA 1st Sem:- Liberalism. BA 3rd Sem:- International relation (post west Phalia) BA 5th Sem:- theory of Cultural relativism	BA 1st Sem:- Neo-Liberalism BA. 3rd Sem:- Liberal approach BA 5 th Sem:- Marxist approach	BA 1st Sem:- Marxism. BA. 3rd Sem:- Realist approach BA 5 th Sem:- UN and Human Rights

Dr ANU RANI BEHERA	I Sem : Democracy Meaning III Sem : Capitalism Meaning V Sem : Machiavelli Virtue	I Sem – Democracy characteristics III Sem : Capitalism Development V Sem : Machiavelli Prince, State	I Sem : Democracy Merits & Demerits etc. III Sem : Globalization V Sem : Machiavelli Republicanism	I Sem : Deliberative Democracy Meaning & features III Sem : Colonialism Meaning I Sem : Hobbes Human Nature	I Sem : Participation & Representation III Sem : Colonialism Stages V Sem : Hobbes Social Contract	I Sem : Procedural Democracy III Sem : Decolonialisation V Sem : Hobbes State of Nature

Head
Dept. of Political Sc

HEAD
Dept. of Pol. Science
Gossaigaon College
Date.....

EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF Economics **MONTH** ..... **SESSION** .....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: .....
	BA Sem-III (Hon) (Concept of set) BA Sem-V (Hon) (Population Economics) BA Sem-V (DSE) & SEC-I (Financial Market)	BA Sem-III (GE) (Concept of Economic) BA Sem-V (Hon) (Causes of population growth)	HS-I (Data Collection) BA Sem-I (Hon) (What is national Income?) BA Sem-III (Hon) (Equation of sets)	HS-I (Sources of data collection) BA Sem-III (GE) (Difference between economic growth and development) BA Sem-V (Hon) (Birth rate, death rate, Health and population)	BA Sem-I (GE) (utility & Demand) BA Sem-I (Hon) (HI & related concept)	BA Sem-I (Hon) (Methods of national income) BA Sem-I (GE) (Calculation of equilibrium) BA Sem-V (Hon) (Measures to control population)
Sanjib Chhetry.	B.A 1st sem (Hon) variable concept B.A 1st sem (GE) (Elective/DCA)	H.S 1st year Statistics for Economics. B.A V Sem (Hon) Money Definition & components B.A V Sem (SEC-3)	B.A III sem (Hon) population & Sample. B.A III sem (Hon) Financial system B.A V sem (DSC/4E/4H)	B.A 1st sem (Hon) concepts of equilibrium B.A 3rd Sem (Hon) location and variation B.A 5th sem (Hon)	H.S 2nd year Budget & components. B.A 1st Sem (Hon) Revenue concept B.A V Sem (Hon) Banking system	B.A III Sem (Hon) Probability theory. B.A V Sem (Hon) Financial system.

Rimzi Boruah	HS 1st year – Production function BA 3rd Sem GE – Economic growth & development 3rd sem (H) – Aggregate demand & Aggregate Supply	BA 1st Sem (H) – Profit functions and its concepts BA 1st Sem GE/Elective – costs and its types BA 3rd Sem – Mundel-Flemm model.	BA 1st sem (H) – consumption function BA 5th Sem (H DSC/GE) – ~~Law of variable~~ ~~proportion~~ ~~Economics~~ BA 1st Sem (GE) – Micro economics	BA 1st Sem (H) – Producers equilibrium BA 3rd ~~sem~~ (H) – BA 5th sem (DSC/GE) – Principle of Microeconomics	HS 1st year – cost and Revenue BA 3rd sem (H) – Exchange rate determination BA 5th Sem (H) – Theory of Big push	HS IInd Year – Indian economy on the eve of independence BA 5th Sem (H) – Economic growth & development concept BA V sem SEC3

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DEPARTMENT OF EDUCATION MONTH .... SESSION ....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: ....
Lavanya Lahkar Lahkar.	T.D.C. 1st Sem → concept of education T.D.C. 3rd Sem → Measurment, meaning. T.D.C. 5th (G) concept of vocational Guidance.	T.D.C. 3rd Sem. Concept of evaluation T.D.C. 3rd Sem. Evalation. T.D.C. 5th Practical	T.D.C. 1st Sem. Philosophy - meaning. T.D.C. 3rd Sem. Relation between Measurement / evalation. T.D.C. 5th Sem. Practical	T.D.C. 1st (DSC) components of Edu. T.D.C. 5th SEC Life Skill Edu - Meaning T.D.C. 5th HC Child Psychology - Meaning	T.D.C. 1st Sem HC Idealism / Naturalism T.D.C. 3rd HC. Relation between Measurement / evalution T.D.C. 5th Sem. Child Psychology.	T.D.C. 5th Sem. Discussion on paper DSC 1 T.D.C. 5th Sem (SEC) Meaning / needs of LSE T.D.C. 5th Sem. Discussion on Practical
Minakshee Pathak Pathak	T.D.C. 1st Sem → Forms of Education Meaning & characteristics 3rd Sem → Meaning & nature of guidance 5th Sem → Meaning and Nature of Educational management.	T.D.C. 1st Sem → Function and responsibility of school. 3rd Sem → Philosophical, psychological bases of guidance 5th Sem → Need and Scope of Edl. management.	T.D.C. 3rd Sem → Sociological and psychological bases of guidance. 5th Sem → Difference between Edl. management and administration and school organization.	T.D.C. 1st Sem → Relationship between school and society. 3rd Sem → Need & importance of edul guidance service in school. 5th Sem → Edl administration vs. school administration.	T.D.C. 1st Sem → Meaning and characteristics of informal education. 5th Sem → RC - Meaning, nature & scope of guidance. H.C. - Practical	T.D.C. 3rd Sem → Meaning, and Nature and scope of vocational guidance 5th Sem → Meaning and scope of continuing edu. HC - Characteristics of successful edl management.
Hashem [illegible]	TDC 1st Sem - (HE) concept of Education TDC 3rd Sem - charter Act 1813 5th Sem - Concept of Counselling.	5th Sem (HC) - Psychology Practical 5th Sem (RW) - Concept of Psychology nature of its.	1st Sem - (H) Pupil 1st Sem (HE) - Aims of education 5th Sem (H) Psychological Practical	1st Sem (H): Teacher 3rd Sem (H) - Hunter Commn 1882 5th Sem (H): Techniques of counselling	3rd Sem (H) Woods Despatch 5th Sem (H) Psychology Practical	1st Sem (H) - Curriculum 3rd Sem (SEC) - Meaning and nature of Value 5th Sem (H) - Psychology Practical

Dr. Shibu Basumatary	TDC - 3rd Sem: Concept of Teacher Education, aims, objectives, history TDC - 5th Sem: meaning and definition of Educational supervision	TDC - 1st Sem: Introduction to education TDC - 3rd Sem: Pre-service and in-service teacher education TDC - 5th Sem: Features of educational supervision.	TDC - 1st Sem: Components of education - pupils, teacher, curriculum TDC - 3rd Sem: Problems of teacher education TDC - 5th Sem: Functions and objectives of Educational Supervision	TDC - 3rd Sem: Skill based and competency based teacher education, FIACS, SSST, TDC - 5th Sem: Functions of educational supervision.	TDC - 1st Sem: Functions of education, Philosophy and education, relationship, schools of philosophy TDC - 5th Sem: Institutional planning, meaning nature, characteristics.	TDC - 1st Sem: Education and sociology, meaning, nature, need, scope. TDC - 3rd Sem: Organisations of teacher education. TDC - 5th Sem: Types, steps, importance of institutional planning.

Head
Dept. of Education

DR. LABANYA LAHKAR
HOD & Associate Professor
Deptt. of Education
Gossaigaon College

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DEPARTMENT OF ......Chemistry............ MONTH .... SESSION ....

...me and ...nature ...eacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: ....
...Kr. Basumatary [signature]	Sem I chemical bonding (Inorganic chemistry) Sem V photo chemistry (A.U)	Sem III Inorganic polymer (Practical class)	physical practical class (sem V)	Sem V DSC-2 Spectroscopy	Sem III Skill enhancement course	Sem I Chemical bonding
...mi Nasrin [signature]	Sem I Gaseous state + Practical (Physical chem) Sem III (H) Acids and Bases (Theory)	Sem V Organic chemistry + Practical Sem (III) (G) Amino acid (org. chem)	Sem III (H) Carboxylic acids and their derivatives Sem V Question discussion	Sem I (H) Chemical bonding Sem III Sulphur containing compound Sem V Nucleic acid	Sem V Proteins & Enzymes Sem III Question discussion on their syllabus.	Sem III (G) Nucleic acids (org. chem). Sem V Biomolecules
...n Basumatary [signature]	Sem V Quantum chemistry Sem-III Chemical Kinetics	sem-III - chemical kinetics sem III-(Generic) Solutions. sem-V- Quantum chemistry	Sem-III- Catalysis sem-V spectroscopy	sem-V Photochemistry sem-III Surface chemistry	Sem-V Spectroscopy sem-III (Generic) Electrochemistry	sem-I -Solid state Sem-III -Phase equilibrium sem-V practical (Colorimetry)

Sunghia Brahma	Sem V - DSE(II) - Electro magnetic spectrum Sem III - 's' and 'p' block Sem 'I' - Oxidation	Sem V - DSE(II) - Beer's Lambert's Law Sem III - Wade's Rule Sem 'I' - Reduction	Sem V - DSE(I) - Term. symbol Sem III - Noble gases Sem 'I' - Electrochemical series	Sem V - DSE(I) - chromatography Sem III - VSEPR theory Sem 'I' - Redox equations	Sem V - DSE(II) - Spectroscopy Sem III - Acid, base Sem 'I' - Practical	Sem V - DSE (II) - Thermal methods of analysis Sem III - metallurgy Sem I - Practical

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EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF ...Assamese..... **MONTH** ..... **SESSION** .....

e and ature acher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: .....
besoarz Das Dr.	Sem-I, History & Modern Assamese Language. Sem-V Introduction & Linguistics.	Sem-III Study on Assamese Drama. Sem-V Introduction & Linguistics.	Sem-V History & Phonetics Sem-III History & Assamese Drama.	Sem-III Origin and Development & Assamese Drama Sem-III DSC History & Assamese Biography.	Sem-I Modern Assamese Period - History. Sem-V phonetics	Sem-III Drama - Kanaku Bath. Sem-V Phonetics.
nakya shya	Sem-III. Study on Assamese Folk literature. Sem-V. Introduction to Assamese Poetry.	Sem-I History & Assamese Literature. Sem-V History & Romantic Poetry.	Sem-VI Romantic Poetry - Nat Ghar. Sem-III Introduction in Assame Prose.	Sem-I Introduction & Assamese Oral Literature. Sem-V Poetry. Nat. Ghorz.	Sem-III Prose, Srikrishnar Purvang. Sem-V Poetry - Biswadglam. Sem-III DSC Study on Assamese Prose.	Sem-I Concepts & Oral Literature. Sem-III Kodke Gita, Chap-1.
swar ah	Sem-III Assamese classical Literature Sem-V General Introduction Morphology.	Sem-I Origin and Development & Assamese Language GE-1; Sem-III Study on Assamese Biography Sem-1 (AECC) Elements & Assamese Grammarz.	Sem-I Early Assamese Language (13th Century -- Sem-I (AECC) Phonetics and Morphology.	Sem-V History & Morphology. Sem-III Assamese Biography.	Sem-III Origin and Development & Assamese Drama Sem-V Morphology.	Sem-V Semantics and Syntax - General Introduction. Sem-III (SEC-1) Folklore and Tourism & Assam.

Dr. Poly Borah 2.2.23	Sem-I History of Post ware Assamese Literature Sem-I (DSC) Introduction to Assamese Folk literature.	Sem-III Introduction of Assamese Phrase and Idioms. Sem-V Classicism Introduction to literary Trends.	Sem-I Post War Assamese Literature. Sem-III History of Phrase	Sem-I Assamese Romantic literature 1846-1940. Sem-V Romanticism.	Sem-I History of Missionary literature. Sem-V History of classicism.	Sem-I Post-War Assamese Literature. Sem-V (DSE-I) Introduction to Linguistics. Sem-I (AECC) History of Part of Speech.
Priyanka Dey 10/2/23	Sem-I Concepts of Pre-Sankari Age. Sem-III Definition of Folk Literature. Sem-V GE Assamese folk literature	Sem-I History of Sankari age and Post-Sankari age. SE-I Introduction and definition and classification of Folk literature.	Sem-III Origin and development of Assamese Drama. Sem-V DSE I Poetry- Ketaki R.C.	Sem-I GE. Definition of folk literature. Sem-I Assamese classical literature. Sem-III J.P. Agaravala Drama: Rupalim.	Sem-III J.P. Agaravala Drama Rupalim. Sem-V History of Modernism	Sem-I Characteristics of Oral Literature. Sem-V History of characteristics of Modernism.

Head
Dept. of Assamese

HEAD
Dept. of Assamese
Gossaigaon College, Gossaigaon

EXECUTION OF TEACHING PLAN, GOSSAIGAON COLLEGE

DEPARTMENT OF ..... MONTH ..... SESSION .....

Name and Signature of Teacher	Monday Date:	Tuesday Date:	Wednesday Date:	Thursday Date:	Friday Date:	Saturday Date: .....
Kr. Lanjan Mustafary	C-12: Advent of the British in Assam.	C-12: Administration under David Scott.	C-12: Annexation of Lower Assam	C-12: Anti-British uprisings (1826-1830).	C-12: Annexation of Upper Assam	C-12: The Revolt of 1857 and its repercussions in Assam.
Kr. Barchoo	C2-Geographical Background C5-Rise of Provincial kingdom C11-Santhal uprising	C2-Sources, Primary & Secondary Sources C5-Vijayanagar Empire C11-Indigo rebellion (1860)	C2-Archaeological Sources C5-Bahamani kingdom C11-Pabna agrarian	C2-Literary Sources (Indigenous & Foreign) C5-Expansion & disintegration C11-Land revenue system	C2-Pre-history, Proto-history, history C5-Rise of Gujarat & Bengal C11-Forest policy	C2-Early Stone age, Paleolithic age C5-Rise of Afghans C11-Commercialization
Gurung Kr. Beauty	C-1: Historiography & its importance C-6: Introduction to socio-political system in Europe DSE-1: Opening of China	C-1: Sources of history C-6: Origin of the French Revolution DSE-1: Advent of the British in China.	C-1: Types of sources in history C-6: Intellectual current and development in French Revolution. DSE-1: The Canton Trade System	C-1: Objectivity in history. C-6: Emergence of social class in France DSE-1: The First Opium war DSE-1A: Introduction to French Revolution	C-1: Research in History C-6: Rise of Napoleon and his control in Europe. DSE-1: Treaty of Nanking. DSE-1A: Ancien Regime in France	C-1: Different approaches to writing history C-6: Napoleon's Continental system and his downfall. DSE-1: Boxer Rebellion in China. DSE-1A: Intellectual currents & Development in French Rev.

Dhanjit Sewary	GE-3: Expansion and consolidation of colonial power. DSE-2: Ethnicity	GE-1: Sources of Ancient India DSE-2: sources of Ethno history	GE-1: Literary, Archaeology and foreign sources. GE-3: Mercantilism and foreign trade DSE-2: Concept of Ethno history	DSE-2: Introduction to the Bodo community, Identity & culture	GE-1: Pre-history and proto history GE-3: Early forms of exactions from Bengal. DSE-2: Marriage system of Bodo. GE-1&3: Sources of Ancient India	GE-2: Early Stone Age, palaeolithic, Mesolithic and Neolithic. DSE-2: Religion of the Bodo community.

For HOD
Akash Boshra
Head
Dept. of History
HOD, History
Gossaigaon College, Gossaigaon

Title of Projects undertaken by students:

Department: PHILOSOPHY

Sl.No	Preoject Title	Class semester	year
1	The Concept of Inference in Philosophy	6th Semester	2017
2	Otto's Idea of Holy	6th Semester	2018
3	Argument for the Existence of God	6th Semester	2018
4	The Concept of Gandhi's Non-violence	6th semester	2018
5	The Concept of Society and Individuals	6th semester	2018
6	Indian Philosophy of Cārvāka System	6th semester	2019
7	Buddhism in Indian Philosophy: An Analysis	6th semester	2019
8	Philosophy of Swami Vivekananda: A Critical Analysis	6th Semester	2019
9	The Ramanuja's Vedanta Philosophy: A critical Analysis	6th semester	2019
10	The Philosophy of John Locke: A Critical Analysis	6th semester	2019
11	Nyaya School of Indian Philosophy	6th semester	2019
12	The Philosophy of John Locke: A Critical Analysis,	6th semester	2020
13	The Concept of Substance (Dravya) in Vaisesika Philosophy	6th Semester	2020

Head
Department of Philosophy
Gossaigaon College

le of Projects undertaken by students:

Department: Physics.

Sl.No	Preoject Title	Class semester	year
1	Multivibrator.	VI Sem.	2020
2	Amplifier.	VI Sem.	2020
3	Signal Generator.	VI Sem	2020
4	Voltage Stabilizer.	VI Sem	2021
5	Dual Power supply.	VI Sem	2021
6	Adder Circuits.	VI Sem	2021
7	Smith Trigger Circuit.	VI Sem	2022
8	Counter Circuit.	VI Sem	2022
9	Bridge rectifier Circuit	VI Sem	2022.
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HO Department of Physics
Gossaigaon College

Title of Projects undertaken by students:

Department: Zoology

Sl.No	Preoject Title	Class semester	year
1	Locomotion in Amoeba	B.Sc 1st Sem	22
2	Life cycle of Scypha (Sycon)	" "	
3	Life cycle of Taenia solium	" "	
4	Meristic Study of Channa punctata	B.Sc. 6th Sem	
5	Morphometric Study of Puntius sophore	" "	
6	To Study Induced Breeding Technique in Fish.	" "	
7	To Study on Polyculture Fish farming	" "	
8	Study on Maintainance of Fish Pond	" "	
9	Diversity of Fishing Gears in Tipkai River, Assam	" "	
10	Aquarium Maintenance	" "	
11	Study on Fish Diseases	" "	
12	Preparation of compound Diet for Fishes	" "	
13	Study on Processing of Harvesting Fish (Pond)	" "	
14	Diversity of Fishing Gears used in Fisheries of Sertanguri Area.	" "	

Head
Department of Zoology
Gossaigaon College, Gossaigaon

Title of Projects undertaken by students: 2021–22

Department: English

Sl.No	Preoject Title	Class semester	year
1	the Classical Sanskrit Drama of Kalidasa's Abhijnanam Shakuntalam. Discuss	1st	2022
2	Sketch the character of Charudatta from Sudraka's Mricchkatika.	1st	2022
3	Comment on the development of ambivalent Cultural identities as a result of hybrid Cultural mix in The Free Radio.	2nd	2022
4	Discuss the title of the novel, 'Swami and His Friends'.	2nd	2022
5	Discuss in brief the genre or form of 'Rape of the Lock'	3rd	2022
6	Comment Critically on the Subject of Milton's Paradise Lost Book 1	3rd	2022
7	The Rise of Novels in the 18th century	4th	2022
8	Explain the basic difference between the Neoclassical and Romantic Theories of Poetry	4th	2022
9	Present a critical appreciation of the poem 'Daddy' by Sylvia Plath	5th	2022
10	What is the main Theme of the book 'A Vindication of the Rights of Woman'	5th	2022
11	Mahasweta Devi's 'Draupadi' is a symbol of Subaltern defiance	5th	2022
12	Write a critical note on the Absurd Drama with reference to 'Waiting for Godot' by Samuel Beckett.	6th	2022
13	Elaborate the major themes of 'Things Fall Apart' by Chinua Achebe	6th	2022

H. O. D. English
Gossaigaon College
Papari Kakoti
30/1/21

Title of Projects undertaken by students: Session 2021-22

Department: History

Sl.No	Preoject Title	Class semester	year
1	Significance of Harappan - Town Planning	I	2022
2	Objectivity in History	I	2022
3	Industorial Revolution	II	2022
4	Samudraagupta	II	2022
5	Causes of French Revolution of 1789	III	2022
6	The Vijaynagar Kingdom	III	2022
7	Administration in Maratha Empire	IV	2022
8	Russo-Japanese war; its causes and significance	IV	2022
9	Administration under David Scott	V	2022
10	Ethno History & Society of the Bodos	V	2022
11	Non Cooperation Movement	VI	2021
12	Bolshevik Revolution	VI	2021
13	Treaty of Yandaboo	VI	2021

HOD, History
Gossaigaon College, Gossaigaon

itle of Projects undertaken by students: B.A 1st Semester

epartment: Education

Sl.No	Preoject Title	Class semester	year
1	Meaning and Definitions of Education	I	2021
2	Individual aim v/s social aim of Edu.	I	2021
3	Objectives of Education in Present Era.	I	2021
4	Relationship between Philosophy and Education	I	2021
5	General Principles of curriculum construction	I	2021
6	Importance of co-curricular Activities.	I	2021
7	Importance of Discipline in Social-life.	I	2022
8	Importance of Pupil-Teacher Relationship	I	2022
9	Functions and Responsibilities of School	I	2022
10	Education for all round development of child.	I	2022
11	Role of Non-formal Education in Present society	I	2022
12	Informal Education plays an importance place in child development	I	2022
13	Development of any aspect can not possible without Education.	I	2022

DEPARTMENT OF EDUCATION ESTD. 1971 Date..... GOSSAIGAON

DR. LASANYA LAHKAR
HOD & Associate Professor
Deptt. of Education
Gossaigaon College

Title of Projects undertaken by students: B. A 2nd Semester

Department: Education

Sl.No	Preoject Title	Class semester	year
1	Development of Education in Assam after Independance of our country.	II	2021
2	Vedic Education System in India	II	2022
3	Primary Education in India after Independance of India	II	2021
4	Recommendation of Woods Despatch in Primary to University Education.	II	2021
5	Recommendation of SEC in Secondary Education Level.	II	2022
6	New Education Policy 1986 and curriculum organisation	II	2021
7	Functions of DIET, SCERT and NCERT.	II	2021
8	Role of UGC in Higher Education	II	2021
9	Functions of Sarva Shiksha Abhiyan	II	2022
10	Development of human values.	II	2022
11	Education as an instrument of social change.	II	2022
12	Educational thought and works of J.J. Rousseau.	II	2022
13	Education as human resource development	II	2022

DEPARTMENT OF EDUCATION GOSSAIGAON COLLEGE, GOSSAIGAON ESTD. 1971 Date.....

Lahkar

DR. LABANYA LAHKAR
HOD & Associate Professor
Deptt. of Education
Gossaigaon College

Title of Projects undertaken by students: B.A 3rd Semester

Department: Education

Sl.No	Preoject Title	Class semester	year
1	Development of teacher education in India	III	2021
2	Importance of in-service teacher education.	III	2021
3	Present causes and Problems of teacher educatio in Assam.	III	2021
4	Meaning, Nature and need of measurement in education.	III	2022
5	characteristics of good measuring instrument	III	2022
6	Verbal and non-verbal Test.	III	2022
7	Role of statistics in the field of Education.	III	2022
8	Need of Educational guidance services in school.	III	2022
9	Role of counselling for students	III	2022
10	Importance of educational psychology in teaching-learning process.	III	2022
11	Factors affecting learning.	III	2022
12	Motivation and learning	III	2022
13	Theories of Personality.	III	2022

DEPARTMENT OF EDUCATION ESTD. 1971 Date..... GOSSAIGAON COLLEGE

DR. LABANYA LAHKAR
HOD & Associate Professor
Gossaigaon College

Title of Projects undertaken by students: B.A 4th Semester

Department: Education

Sl.No	Preoject Title	Class semester	year
1	Needs and Importance of Educational Technology	IV	2021
2	Class room Communication its barriers and solutions:	IV	2021
3	Merits and demerits of Micro-teaching	IV	2021
4	Multimedia in Education.	IV	2021
5	Role of computer in modern education	IV	2022
6	Role of Internet in modern education	IV	2022
7	Significant contribution of Swami Vivekananda to education.	IV	2022
8	Significant Contribution of M.K. Gandhi to education.	IV	2022
9	Significant Contribution of R.N. Tagore to education	IV	2022
10	Importance of Environmental education to present society.	IV	2022
11	Environmental Awareness through formal education.	IV	2022
12	Role of Non-formal education in environmental awareness.	IV	2022
13	Role of informal agencies in environmental education.	IV	2022

DEPARTMENT OF EDUCATION ESTD. 1971 Date..... GOSSAIGAON COLLEGE

DR. LABANYA LAHKAR
HOD & Associate Professor
Deptt. of Education
Gossaigaon College

Title of Projects undertaken by students:

Department:

Sl.No	Preoject Title	Class semester	year
1	Education for women Empowerment	5V	2021
2	Hardware and Software technology	5V	2021
3	Micro Teaching	5V	2022
4	Pre natal and post Natal Period	V1	2022
5	Language dev. during early childhood Peri	V1	2021
6	Utilization of ICT in teaching process	V1	2021
7	Properties of NPE	V1	2022
8	Health awarness Programme in School educatio	V1	2022
9	Using of Audio-visual aids in classroom teachi	V1	2022
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DEPARTMENT OF EDUCATION ESTD. 1971 Date..... GOSSAIGAON COLLEGE GOSSAIGAON

Lankar.

DR. LABANYA LANKAR
HOD & Associate Professor
Deptt. of Education
Gossaigaon College

Title of Projects undertaken by students:

Department: Bodo

Sl.No	Preoject Title	Class semester	year
1	नार' आरो राजा गवाने दाथाइसारि खान्थिनि रुजुलायनाय	6th Semester	2020-21
2	बरनि हारिमुवाव बैसागु	do	do
3	कमल कु. ब्रह्मनि "सिमांनि सिमां' फाववाइ	do	do
4	मिसनारि मुगानि फुनलाइ सोरजि	do	do
5	बरफोरनि दोरोंआरि गान्नाय-जोमनाय आरो आखिरखालाव बेनि महर	do	do
6	धरनीधर औवारियनि 'मैदर' सलमा	do	do
7	अलंबार मुगानि रायथाइ सोरजि	do	do
8	मनरन्जन लाहारिनि "खारलुं" सलमा	do	do
9	नरसनि हाबा-दुखाथाव बाहायनाय दंफांनि आइजें-आइला	do	do
10	हरिभुषन ब्रह्मनि फुनलाइ सोरजियाव बेरखांनाय केस्ला बिदै	do	do
11	बरफोरनि फुं संनाय-स्वावनायनि आगदा आरो बेनि बोसेन	do	do
12	बरफोरनि आखाय मावनायाव बाहायनाय आइजें-आइला	do	do
		do	do
		do	do

Head
Deptt. of Bodo
Gossaigaon College

Title of Projects undertaken by students:

Department: Geography, Gossaigaon College, Gossaigaon

Sl.No	Project title	Class Semester	year
1.	Project Report on Tourism & Transportation	BA/BSc 3rd Sem	2018
2.	Project Report on Social & Physical Condition	BA/BSc 5th Sem	2018
3.	Field Report on Socio-Economic Condition	H.S. 2nd year	2018
4.	of Ghugajhora village		
5.	Project Report on Agriculture Landuse	MA/MSc 4th Sem	2019
6.	and land cover & Kachugaon Reserve Forest		
7.	Project Report on Urbanization of	BA/BSc 6th Sem	2019
8.	Simla & Manali		
9.	Project Report on the Development	BA 3rd Sem	2019
10.	of tourism industry in Manas National		
11.	Park		
12.	Field study Report on Socio-Economic	H.S. 2nd yr.	2019
13.	condition of Guwabari village		
14.	Project Report on Social Condition	MA/MSc 4th Sem	2020
15.	Project Report on Industrial Development	BA/BSc 6th Sm	2020
16.	of Delhi & Chandigarh		
17.	Field Report on Babubil village	BA/BSc 3rd Sm	2020
18.	Field study Report on Gossaigaon	H.S. 2nd yr.	2020
19.	town		
20.	Project Report on Raimona National	MA/MSc 4th Sem	2021
21.	Park & Tourism & Transportation		
22.	Project Report on Digha & Puri	BA/BSc 6th Sm	2021
23.	Project Report on Sikkim	BA/BSc 3rd Sem	2021
24.	Project Report on Street-Vendor, Govt.	MA/MSc 4th Sem	2022
25	& Private High School		
	Field study Report on physical &	BA/BSc 6th Sem	2022
	Social conditions of Borobazi village		
	Project Report on Socio-cultural	BA/BSc 3rd Sem	2022
	condition of Meenabichi village		

Head
Department of Geography
Gossaigaon College, Gossaigaon

Title of Projects undertaken by students:

Department: ASSAMESE

Sl.No	Preoject Title	Class semester	year
1	গোসাইগাওঁ অঞ্চলৰ মুছলমানসকলৰ মাজত প্ৰচলিত প্ৰবাদ-প্ৰবচন আৰু সাঁথৰ → এক বিশ্লেষণাত্মক অধ্যয়ন	6th	2022
2	গোসাইগাওঁ অঞ্চলত প্ৰচলিত কৃষি-ভিত্তিক উৎসৱ-পাৰ্বণৰ এক অধ্যয়ন	6th	2022
3	গোসাইগাওঁ অঞ্চলত প্ৰচলিত কোঁচ-বাজবংশীসকলৰ ধৰ্মীয় উৎসৱ অনুষ্ঠান	6th	2021
4	গোসাইগাওঁ অঞ্চলৰ কোঁচ-বাজবংশীসকলত লোকসমাজত প্ৰচলিত চিকিৎসা ব্যৱস্থাত বনৌষধি : এটি অধ্যয়ন	6th	2020
5	গোসাইগাওঁ অঞ্চলত পৰিচালিত সৎসঙ্গ ধৰ্মৰ প্ৰচাৰ	6th	2019
6	গোসাইগাওঁ অঞ্চলৰ বাজবংশীসকলৰ বিবাহ অনুষ্ঠান	6th	2019
7	গোসাইগাওঁ অঞ্চলত প্ৰচলিত বিভিন্ন জনগোষ্ঠীৰ পৰিহিত সাজপাৰ : এক সমীক্ষাত্মক অধ্যয়ন	4th	2018
8	গোসাইগাওঁ অঞ্চলৰ বঙালী সমাজত প্ৰচলিত বিবাহ অনুষ্ঠান : এক অধ্যয়ন	4th	2018
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HEAD
Department of Assamese
Gossaigaon College, Gossaigaon