

# **KAKOJAN COLLEGE**

**JORHAT, ASSAM**

**785107**

**ESTD. 1967**

**PROGRAMME OUTCOMES (POs),  
PROGRAMME SPECIFIC OUTCOMES (PSOs)  
&  
COURSE OUTCOMES (COs)  
(2020 – 2021)**



**(INTERNAL QUALITY ASSURANCE CELL)**

## 2.6 Students Performance and Learning Outcomes:

2.6.1: Programme outcomes, programme specific outcomes and course outcomes for all programmes offered by the institution are as follows:

**UG (B.A. & B.Sc.) Programme Outcomes:** From the academic session 2019-2020, Dibrugarh University introduced CBCS system in UG level. After completing Undergraduate Programme in specific subjects (Major as well as Honours), a student will acquire in depth knowledge of the subjects that he/ she studied in UG programme and become competent for further Higher Studies; to prepare for competitive examination and can apply for jobs of his/her interest.

**Programme Specific Outcomes and Course Outcomes:** The learning outcomes i.e. knowledge or skills acquired by the students from each course of various departments of the institution are listed below:

### 1. B.A. Major (Old Semester System) & B.A. Honours (CBCS) Course outcome:

#### Department of Assamese

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Student will learn about History of Assamese Literature (Upto the era of Post Shankardeva) and History of Assamese Literature (From Arunodai to contemporary period)
	(2) Student will learn about Linguistic and Poetics
	(3) Student will learn about Literary Criticism, Assamese Poetry and Culture of Assam
	(4) Student will learn about Theory and Practice of Comparative Literature, Indo-Aryan Languages of Assam and Assamese prose
	(5) Student will learn Literature and various literary devices, their definition and uses, Assamese drama and Assamese theatre, Assamese culture and its characteristics in detail, Comparative literature, its definition and comparison of Assamese literature with Indian literature.
	(6) Student will learn Practical use of Assamese language in various fields like news reading, editing, advertisement etc, Significance of the evolution of Arya language of India, the introduction of Sanskrit, Pali and Prakrit, grammar and proper use of the language, Assamese phonetics, different theories related to phonetics, word structure, sentence structure, etc, the Basic idea of world literature

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	This paper tries to acquaint the students with the classification of ages of Assamese literature that implies a critical survey of entire Assamese literature. The students will be benefitted with the knowledge of distinctive feature of Assamese literature encompassing the Assamese folk literature to post Sankarian literature
2.	C – 2	The outcome of the course is to introduce the learners with conceptual knowledge of the tendency and facet of Assamese literature from its genesis to present

3.	C – 3	This course will acquaint the students with the illustrative history of the thought and concern of the east west in terms of their linguistic discourse
4.	C – 4	The course will apprise the students with the theory and fundamentals of the tradition of both literary orientalism and westernism.
5.	C – 5	The outcome of the course is to introduce with the literary theories and its nature and scopes, understand the common trajectory of growth of literary criticism and the various aspects of literary criticism and its branches, grow the capacity of the students to understanding and analysis of literary texts
6.	C – 6	The outcome of the course is to introduce with the history of Assamese poetry, the characteristics and diversity of Assamese poetry and some selected poets with their work.
7.	C – 7	The objectives of this paper is to study about the meaning, nature, scope and characteristics of culture, cultural background of Assam as an unique cultural spot of observation as it has been occupied by various ethnic groups of people and to exhibit diverse cultural traits and preservation of the region
8.	C – 8	The outcome to the course is to acquaint with the nature, scope and meaning of comparative Indian literature and the various prospective of studies of it, to compare various literary texts of Assamese with texts of different languages.
9.	C – 9	The outcome of the course is understand the evolution process of Indo-Aryan languages, to get some idea about Sanskrit, Pali and Prakrit Language through some selected texts, to develops the grammatical conceptuality of Assamese language and will come to know the formation and development of Assamese language
10.	C – 10	The outcome of the course is to introduce with the developmental history of Assamese prose literature and to the characteristics and diversity of Assamese prose
11.	AECC	The outcome of this paper is to strengthen the effectiveness of communication through the use of Assamese language
12.	GE – 1	The objectives of the paper is to provide a conception about the entrepreneurship of tourism industry underpinning the cultural heritage of Assam
13.	GE - 2	The course will acquaint the students with the teaching of Assamese literature. This course provides a fascinating platform to enable themselves with the variegated dimensions of Assamese literature.
14.	GE – 3	The objective of this paper is to provide a concept on teaching of Assamese Language and Literature
15.	GE – 4	The objective of this paper is to provide a concept on reading and writing method of Assamese Language
16.	501	Literature and various literary devices, their definition and uses.
17.	502	Assamese drama and Assamese theatre.
18.	503	Assamese culture and its characteristics in detail.
19.	504	Comparative literature, its definition and comparison of Assamese literature with Indian literature.
20.	601	Practical use of Assamese language in various fields like news reading, editing, advertisement etc.
21.	602	Significance of the evolution of Arya language of India, introduction of Sanskrit, Pali and Prakrit, grammar and proper use of the language.
22.	603	Assamese phonetics , different theories related to phonetics, word structure, sentence structure etc.
23.	604	Basic idea of world literature

## Department of Economics

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Student will learn about microeconomics and mathematical methods in economics – I
	(2) Student will learn about Macroeconomics and mathematical methods in economics – II
	(3) Student will learn about essentials of microeconomics, essentials of macroeconomics, and statistical methods for economics
	(4) Student will learn about advanced microeconomics, advanced macroeconomics and introductory economics
	(5) Measurement of development with the help of theories along with the conceptual issue of poverty and inequalities with Indian perspectives, Fiscal policies designed for developed and developing economies with a special thrust to federal system, Historical developments in the economic thought propounded by different schools, Basic concepts relating to monetary analysis and financial marketing with a reference to Indian financial market.
	(6) Development problems of the North east India, Basic concepts of environmental economics along with the solution to the environmental problems, Real and monetary sides of international economics, Characteristics of the economy of Assam.

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.
2.	C – 2	This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general.
3.	C – 3	This course aims to introduce the students to the basic concepts of Macroeconomics. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variables like savings, investment, GDP, money, inflation and the balance of payments.
4.	C – 4	This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this Syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general.

5.	C – 5	Essentials of Microeconomics The course is designed to provide a sound Training in microeconomic theory to Formally analyze the behaviour of Consumer producer and also competitive Firm.
6.	C – 6	Essentials of macroeconomics This course introduces the students to Formal modeling of macro economy In terms of analytical tools.
7.	C – 7	Statistical methods for economics This course aims to introduce statistical Analysis and inference in economics.
8.	C – 8	Advanced microeconomics This course emphasis on giving conceptual clarity To the students coupled with use of reasoning And mathematical tools.
9.	C – 9	Advanced macroeconomics This course aims to provide micro foundation to Various aggregative long run concepts
10.	C – 10	Introductory Econometrics This course aims to provide a comprehensive Introduction to econometric concepts and methods In India.
11.	GE – 1	This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.
12.	GE - 2	This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.
13.	GE – 3	The main objectives of this paper is to know the economic causes of environmental problems and particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies
14.	GE – 4	The outcome of this course is to examine sector-specific polices and their impact in shaping trends in key economic indicators in India
15.	501	Measurement of development with the help of theories along with the conceptual issue of poverty and inequalities with Indian perspectives.
16.	502	Fiscal policies designed for developed and developing economies with a special thrust to federal system.
17.	503	Historical developments in the economic thought propounded by different schools.
18.	504	Basic concepts relating to monetary analysis and financial marketing with a reference to Indian financial market.
19.	601	Development problems of the North east India.
20.	602	Basic concepts of environmental economics along with the solution to the environmental problems.
21.	603	Real and monetary sides of international economics.
22.	604	Characteristics of the economy of Assam.

## Department of Education

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Student will learn about philosophical foundation of education and sociological foundations of education
	(2) Student will learn about psychological foundations of education; educational administration and management
	(3) Student will learn about great educators and educational thoughts, measurement and evaluation in education, experimental psychology and laboratory practical
	(4) Student will learn about Education in Pre-independent India, Techniques of teaching, Teaching Practice
	(5) Importance of child psychology and the need of guidance of child development, Developments of Indian education since independence, reasons for the recommendations of the different Educational commissions since independence, Educational technology and its use in education system, the role of communication technology in class-rooms, Principles of Teaching Learning Process, role of audio- visual aids, importance of lesson planning in teaching learning process
	(6) Laboratory practical, Field Study, Concept in school management, to learn about educational system and drawback of own country, Significant trends in education

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	On completion of the course, the students will be able to: 1. describe the modern concept, aims, functions and role of education. 2. describe the role of Philosophy in Education. 3. explain the basic tenants of the given Indian and Western Philosophies and their influence in Education. 4. appraise the contribution of the given philosophers in the domain of education.
2.	C – 2	On completion of the course, the students will be able to: 1. Explain the concept, approaches and theories of educational sociology. 2. Illustrate Social Aspects, Social Processes and role of Education. 3. Explain the role of Education in Social Change and Development. 4. Describe various Social Groups and their Education 5. Explain different Political Ideologies and their bearings on Education
3.	C – 3	On completion of the course, the students will be able to: 1. Explain the concept, nature, scope and uses of psychology in Education. 2. Explain the influence of growth and development in education. 3. Describe the meaning, concept, variables, types and theories of learning. 4. Discuss the concept and theories of intelligence and creativity. 5. Explain the meaning, concept, factors and theories of personality. 6. Describe the concepts of mental health and mental hygiene, measures of mental health in school

4	C – 4	On completion of the course, learners will be able to1. define the concept of Educational Management. 2. Describe the types of management and modern trends of Educational management. 3. define the concept of educational leadership 4. explain the principles of educational leadershipPage14 5. describe the styles of leadership and its implication in educational leadership. 6. define the concept of educational planning and its importance 7. analyze the role and importance of educational supervision 8. suggest measures to ensure quality in educational management.
5	C – 5	The main objective of the course is to describe the contribution of the given philosophers in the domain of education, to explain the relevance of the educational thought of the philosophers
6.	C – 6	The outcome of the course is to explain the meaning, nature, scope, need and types of measurement and evaluation in education; to describe the meaning of psychological tests, their characteristics and process of construction; to describe some specific tools to measure achievement, intelligence, personality and aptitude; to describe the meaning and nature of different statistical measures; to use statistics in measurement and evaluation in education
7.	C – 7	The outcome of the course is to explain the concept, scope and need of Experimental psychology; to conduct and report of psychological experiments; to describe the meaning and nature of memory, Immediate memory, memory span and its related practical; to explain the concept of attention, span of attention and its related practical; to explain the concept, theories and methods of learning and its related practical; to state the concept of personality, different techniques of personality testing and its related practical; to state the concept of intelligence, historical background of intelligence testing and its related practical
8.	C – 8	The main objectives of the course is to explain the meaning and nature of teaching; to describe the principles of teaching and learning; to describe the role of teacher at different phases of teaching; to explain the importance of planning lessons in teaching-learning process; to describe the concept of teaching skills and the stages of microteaching cycle; to state the objectives of teaching different subjects in Elementary and Secondary levels; to describe different methods and approaches of teaching
9.	C – 9	The outcome of the course is to demonstrate a few teaching skills in classroom; to integrate the teaching skills in real classroom situations; to prepare lesson plans for Microteaching and Practice teaching
10.	C – 10	The outcome of the course is to describe the concept, nature and components of Educational Technology; to distinguish between Educational technology and Instructional Technology; to apply ICT in teaching learning; to describe the concept, components and characteristics of

		communication; to demonstrate the skills of effective communication; to apply Models of teaching, personalized system of instruction and programmed learning in teaching learning
11.	GE – 1	On completion of the course, the students will be able to: 1. Explain the meaning, definition, nature, scope, theories and constitutional perspectives of human rights. 2. Describe the concept, objectives, principles, need and curriculum, of human rights education. 3. Describe methods and activities of teaching human right education. 4. Describe the factors promoting human right education. 5. Describe the basics of human rights education i.e. societal, political, regionalism and limitations of its 6. explain the role of different agencies of human rights education
12.	GE - 2	On completion of the course, the students will be able to: 1. Describe meaning, nature, purpose and scope of guidance and counselling. 2. Describe the characteristics and functions of guidance and counselling. 3. State the basic principles of guidance and counselling. 4. Explain the types and areas of guidance and counselling. 5. Use various tools and techniques of guidance in appropriate context. 6. Explain the qualities and role of a counsellor.
13.	GE – 3	The students will learn to explain the meaning, definition, nature, scope, theories and constitutional perspectives of Human Rights; Concept, Objectives, Principles, need, factors, curriculum, methods and activities of Human Rights Education; the basics of Human Rights Education i.e. societal, political, regionalism and limitations of its; the role of different agencies of Human Rights Education
14.	GE – 4	The students will be able to explain the meaning and nature of gender and its related terms; the gender biases and gender inequality in family, school and society; the gender issues related to school education; the laws and policies related to gender equality
15.	501	Importance of child psychology and the need of guidance of child development, to develop a sensitivity towards the needs and rights of children and understanding about children and new insight about them.
16.	502	Developments of Indian education since independence, reasons for the recommendations of the different Educational commissions since independence, causes for various educational movements and its accompanying challenges & Indian Constitution.
17.	503	Educational technology and its use in education system, the role of communication technology in class-rooms, to use and innovative methods of educational technology in teaching learning process.
18.	504	Principles of Teaching Learning Process, role of audio- visual aids, importance of lesson planning in teaching learning process, knowledge about teaching different subjects and different methods and approaches of teaching
19.	505	Practice teaching : to develop skill of preparing lesson plan for micro and macro teaching



20.	601	Laboratory practical : uses of psychological test, report conduct in psychological laboratory
21.	602	Field study : to provide knowledge of preparing a report after field visit , to familiarize students with the changing educational realities of today's society
22.	603	Concept, nature and scope of measurement, concept of educational supervision, concept of planning and finance, type of resources in school managements.
23.	604	To understand the educational system of own country, drawbacks of the system as compared to other countries, to plan changes in education in the context of global world and help in reforms.
24	605	Significant trends in education, to focus attention on certain major social and national issues related to India, to develop various plans and policies regarding the educational set up in India.

## Department of English

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Student will learn about the Indian Classical Literature; the European Classical Literature
	(2) Student will learn about Indian writing in English; British Poetry and Drama 14th to 17th Century
	(3) Student will learn about American Literature; Popular Literature; British Poetry and Drama 17th and 18th Century
	(4) Student will learn about British Literature: 18th Century; British Romantic Literature; British Literature: 19th Century
	(5) English drama from Marlowe to Beckett encompassing the cultural context of their production and reception; Major critical text from the Classical period as well as from the Renaissance and the neo-classical period; Major philosophical text from the early modern period to the 20 <sup>th</sup> century to contextualize the philosophical terms and frames; Seminal IWE text in order to understand the complexities of Indian life
	(6) Major critical text from Romantic period to the 20 <sup>th</sup> century that initiate the contextualization of critical terms and analysis of literary text; Seminal American text that would help to understand the complexities of American culture; Postcolonial novels to understand the complex negotiation between the colonizer and colonized; Some basic concepts associated with language

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	After completing this course, the learner shall be in a position to understand and appreciate the rich Indian classical literary tradition including its distinctive aesthetic philosophies. It would provide them with the conceptual resources to make a comparative assessment between the Indian and the Western classical tradition, thereby enabling their knowledge and understanding of the two great ancient literary traditions.
2.	C – 2	After the completion of the course, the learners shall be in a position to understand the source of Western literary paradigm – a formation that was responsible for constituting the great tradition of the western canon, and one which governs our critical or comparative touchstone on ‘what good literature ought to be.
3.	C – 3	The outcome of this course is to introduce learners to Indian writing in English from the colonial to the post-colonial period. Issues, such as, identity politics, gendered differences, home, dislocation, language among others, shall be understood with the intention to understand the diversity of Indian culture and tradition across spatiality.

4.	C – 4	This course will apprise the students with British poetry and drama from Chaucer to Shakespeare. The text prescribed relate to the age of Chaucer, pre-Elizabethan and Elizabethan periods. Shakespeare figure predominantly in the Course, with a tragedy, comedy and two sonnets prescribed. Marlowe’s play encapsulates the spirit of the Renaissance, thereby placing the Elizabethan period in proper perspective.
5.	C – 5	The outcome of the course is to get a feel of American literature; understand the poetics and politics of a literature characterised both by liberal and reactionary ideals
6.	C – 6	The students will learn about the presence of a creative space and process that has the potential to affect readers to a degree that high-brow literature cannot achieve due to its propensity to target only a niche audience
7.	C – 7	Learners will be in a position to understand the ways in which English drama and poetry began to emphasize on the importance of adhering to classical norms and forms
8.	C – 8	Learners will be in a position to understand the spirit of the age, as well as the literature embodying this spirit
9.	C – 9	Learners would be in a position to know and appreciate the values of a literature characterised by emotion, passion, love towards nature, exerting of imagination and so forth in order to create a thing of beauty, which would be a joy forever
10.	C – 10	The learners will be in a position to understand the philosophical shift that came about due to the crises of faith pertaining to the culture of positivism that manifested its full presence during the Victorian period; They would be able to understand concepts like utilitarianism, surplus value, Victorian prudishness, survival of the fittest etc.
11.	AECC – 1	This course enlightens the students to the theory, fundamentals and tools of communication and to develop in them vital communication skills which should be integral to personal, social and professional interactions. The present course hopes to address the issues of effective communication in the backdrop of the rapid globalization and increasing recognition of social and cultural pluralities through interactive mode of teaching learning process and by focusing on various dimensions of communication skills, such as, personal communication, social interactions and communications in professional situations such as interviews, group discussions and office environments, important reading skills as well as writing skills such as report writing, note making, etc.
12.	AECC – 2	This course provides the students a fascinating insight into the worldviews of eminent political thinkers, cultural theorists and literary exponents of the West and the East. The two genres – nonfiction (prose extracts) and fiction (short stories) – are incorporated in the course to underscore the adherence to narrative or descriptive logic which is common to both. The first section intends to acquaint learners with the personal, political and philosophical insights of eminent personalities like M. K. Gandhi, B. R. Ambedkar, G. B. Shaw, M. C. Jeffreys and G.L. Dickenson as expressed in their memorable prose extracts; the second section comprises of a curated list of classic and contemporary short stories by great practitioners

		of the craft like Leo Tolstoy, R. K. Narayan, O. Henry, S. H. Manto and Temsula Ao.
13.	GE – 1	By the end of the course, students will be able to demonstrate and apply knowledge of basic essay structure, including introduction, body and conclusion; employ the various stages of the writing process, including pre-writing, writing and re-writing; employ descriptive, narrative and expository modes; demonstrate ability to write for an academic audience; write concise sentences, etc.
14.	GE - 2	Students will able to grow the skill in media communication; They will be able to opt for a career in journalism, television or digital media by continuing their study in this field in more rigorous terms in their postgraduate level
15.	GE – 3	The learners will get familiarised with the science of the study of the English language; Learners will be able to unravel the morphology, phonological dynamics of the language, thereby making them motivated in researching on a scientific study of language
16.	GE – 4	The learners will get acquainted with gender issues, including the politics of how it is constructed, reinforced and sustained
17.	501	English drama from Marlowe to Beckett encompassing the cultural context of their production and reception.
18	502	Major critical text from the Classical period as well as from the Renaissance and the neo- classical period in order to contextualize critical terms and reference that would be useful for the understanding and analysis of literary text.
19.	503	Major philosophical text from the early modern period to the 20 <sup>th</sup> century to contextualize the philosophical terms and frames of reference that initiates the understanding and analysis of literary texts.
20.	504	Seminal IWE text in order to understand the complexities of Indian life and culture as well as the relevance of IWE in the contemporary world.
21.	601	Major critical text from Romantic period to the 20 <sup>th</sup> century that initiate the contextualization of critical terms and analysis of literary text
22.	602	Seminal American text that would help to understand the complexities of American culture and the relevance of American ideas to the Indian situation.
23.	603	Postcolonial novels to understand the complex negotiation between the colonizer and colonized and transformation in societies and cultures in India and Africa.
24.	604	Some basic concepts associated with language, sound system of English and English syntax to stimulate effective communication in English

## Department of History

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Student will learn about the History of India – I; Social Formation and Cultural Patterns of the Ancient World
	(2) Student will learn about the History of India – II; Social Formation and Cultural Patterns of the Medieval World
	(3) Student will learn about the History of India – III (750 – 1206); Rise of Modern West – I, History of India – IV (1206 – 1550)
	(4) Student will learn about the Rise of Modern West – II, History of India – V (1550 – 1605); History of India VI (1605 – 1705)
	(5) Major factors that led to the establishment and consolidation of British rule in India and process of growth of nationalist movement; Major trends and developments that took place in Europe which ushered in the modern age; Major political developments in Europe from 1815 to 1945; Tourism in North- East India with special reference to the historical monuments and places of North Eastern region
	(6) Ecology and environment history, relation between ecology and human civilization with particular reference to post independence India; Feminist movement, the key concepts in women’s studies as well as sources for reconstruction of women’s history; Significant historical changes in the sociopolitical and economic life in the world beginning with the 17 <sup>th</sup> century European enlightenment to the coming Globalization; Developments of Indian science and technology since early times.

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	The objective of this course is to analyze the various source materials for the reconstruction of Ancient Indian History and the approaches of historical reconstruction. The students will be acquainted the various ancient cultures, the technological, economic, political and religious development of the period concerned
2.	C – 2	The students will acquainted with the evolution of humankind, the beginning of food production, the Bronze Age., advent of iron, the slave society in ancient Greece, the economy and the Political culture of the ancient Greece
3.	C – 3	The objective of this course is to i) acquaints the students with agrarian economy, the growth of urban centres in northern and central India and the Deccan as well as craft production, trade routes and coinage (ii) Process of state

		formation and the Mauryan and post-Mauryan polities with special reference to the Kushnas, Satavahanas and Gana-Sanghas. (iii) Land grants, land rights and peasantry, urban decline and religious traditions of early India
4.	C – 4	i)The learners will be acquainted with the Roman Empire, slave society, the cultural and trade. (ii) The learners will be acquainted with the crisis and disintegration of the Roman Empire (iii) The learners will be exposed to Economic development in Europe from 7th to 14th centuries covering production, technological developments, growth of towns and trade and feudal crisis
5.	C – 5	The students will acquire knowledge about the sources for the reconstruction of early medieval Indian history; to acquaint with Information regarding political structure and social and religious institutions; to acquire knowledge the agrarian structure and social change of the period under study; acquaint with Trade and commerce, guilds and process of urbanization
6.	C – 6	The students will be acquainted with the transition from feudalism to capitalism; to acquainted with the voyages to the new world, the Renaissance; to acquainted with the Religious Reformation; to acquainted with the 16th century Economic Developments; to acquainted with the emergence of European state system
7.	C – 7	The students will be acquainted with the sources, vernacular histories and epigraphy; to acquainted with the various dynasties ruling Delhi; to acquainted with Emergence of Bahmani kingdom and Vijaynagara Empire; to acquainted with the social and economic developments, the religion, society and culture during the late medieval India
8.	C – 8	The students will able to know about the 17th century European crisis, the English Revolution; to know about the Scientific development from 15th to 17th century , Growth of mercantilism; to know about end of Absolute Monarchy and growth of Parliamentary Democracy ; to know about the American and Industrial Revolution
9.	C – 9	The students will have information regarding the Persian sources and vernacular literary traditions; to know about the growth and consolidation of the Mughal Empire; to know about the Mughal policies in the North West Frontier and the Deccan; to know about the land rights and revenue system, agriculture, trade under the Mughals; to know about Political and religious ideas of the period concerned
10.	C – 10	The learners will have an idea about the various sources and historiography of the Mughal period; to get an idea about Expansion of the Mughal rule, the Sufi orders; to get an idea about Auragzeb’s religious policy, religious institutions, Decline of the Mughal Empire, Growth of regional polities and state formation under the Rajputs and the Marathas; to get an idea about 18th Century Debate; to get an idea about trade, craft, monetary and market system, urban centres and Indian Ocean trade networks.

11.	GE – 1	The objective of this paper is to give a general outline of the history of Assam from the 13th century to the occupation of Assam by the English East India Company in the first quarter of the 19th century. It aims to acquaint the students with major stages of developments in the political, social and cultural history of the state during the most important formative period.
12.	GE - 2	The objective of this paper is to acquaint the students with the general outline of the history of India from the known earliest times to the coming of the Mughals to India in the first quarter of the 16th century. It is aimed at giving them a comprehensive idea of the developments in all spheres of life during this period.
13.	GE – 3	Students will acquaint with the general course of events in the field of political, social, cultural and economic affairs in India from the foundation of the Mughal Empire in 1526 till Independence in 1947
14.	GE – 4	Students will acquaint with the major developments in European politico-economic scenario since the Renaissance till the end of the French Revolution
15.	501	Major factors that led to the establishment and consolidation of British rule in India and process of growth of nationalist movement.
16.	502	Major trends and developments that took place in Europe which ushered in the modern age.
17.	503	Major political developments in Europe from 1815 to 1945
18.	504	Tourism in North- East India with special reference to the historical monuments and places of North Eastern region.
19.	601	Ecology and environment history, relation between ecology and human civilization with particular reference to post independence India
20.	602	Feminist movement, the key concepts in women's studies as well as sources for reconstruction of women's history
21.	603	Significant historical changes in the sociopolitical and economic life in the world beginning with the 17 <sup>th</sup> century European enlightenment to the coming Globalization.
22.	604	Developments of Indian science and technology since early times.

## Department of Political Science

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Students will learn about understanding political theory; constitutional government and democracy in India
	(2) Student will learn about the Political Theory – Concepts and Debates; Political Process in India
	(3) Student will learn about introduction to comparative government and politics; perspectives on public administration
	(4) Student will learn about political process and institutions from in comparative perspective; public policy and administration in India; Global Politics
	(5) Student will acquire the knowledge of the basic concept and ideological orientation of the discipline; Contribution of the main tradition of Indian Political thought; Domestic sources and structural constraints on the genesis, evolution and practice of Indian foreign policy; Diverse perspective on International Law
	(6) Human Right among students through the study of aspects of human right; Concepts, issues related to feminism and gender study; Process of administration in the Indian context; Process of rural development administration in Indian Perspective

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	Understanding the political theory: To acquaint with the theories, approaches, concept and Perspectives of political theory. Students will be equipped with the fundamental political theory and practice through reflection on the ideas and practices related to state, citizenship and democracy.
2.	C – 2	Constitutional Government and Democracy in India: To familiarize the students with historical development constitutional government of India. The expected outcome of the course is to make students vigilant about the political system, Structure of the government and constitutional provisions of the Indian constitution.
3.	C – 3	Political theory: Concept and Debates: The expected outcome of the course is to enable students to understand the contemporary debates and issues related to political theory, besides reconciling students with the new ways of perceiving and interpreting the world.
4.	C – 4	Political Processes in India: The expected outcome of the course is to familiarize students with the actual working of the Indian political system over time, besides changing trends and patterns of Indian Polity also introduce to shape students as a responsible citizen.



5.	C – 5	The outcome of the course is to familiarize the students with the basic concepts and approaches to the study of comparative politics; to examine politics in a historical framework while engaging with various themes of comparative analysis in developed and developing countries
6.	C – 6	The main objectives of the course are to the discipline of public administration in its historical context with an emphasis on the various classical and contemporary administrative theories; to describe some of the recent trends, including feminism and ecological conservation and how the call for greater democratization is restructuring public administration; to provide the students with a comprehensive understanding on contemporary administrative developments
7.	C – 7	To equip students with the basic intellectual tools for understanding International Relations; to some of the most important theoretical approaches for studying international relations; to introduce different theories in International Relations, to provide a fairly comprehensive overview of the major political developments and events starting from the twentieth century. Students will learn about the key milestones in world history and be equipped with the tools to understand and analyze the same from different perspectives. It will make students aware of the implicit Euro-centralism of International Relations by highlighting certain specific perspectives from the Global South
8.	C – 8	Students will be trained in the application of comparative methods to the study of politics. They will introduce some of the range of issues, literature, and methods that cover comparative political
9.	C – 9	It will provide an introduction to the interface between public policy and administration in India; Students will introduce the issues of decentralization, financial management, citizens and administration and social welfare from a non-western perspective
10.	C – 10	It will introduce students to the key debates on the meaning and nature of globalization by addressing its political, economic, social, cultural and technological dimensions in keeping with the most important debates within the globalization discourse, it imparts an understanding of the working of the world economy, its anchors and resistances offered by global social movements while analyzing the changing nature of relationship between the state and trans-national actors and networks. Students will also able to describe key contemporary global issues such as the proliferation of nuclear weapons, ecological issues, international terrorism, and human security before concluding with a debate on the phenomenon of global governance
11.	GE – 1	Nationalism in India: The expected outcome of the course is to enable students to understand the struggle and sacrifices of India against British colonialism and to create value in youth regarding patriotism.
12.	GE - 2	Feminism: Theory and Practice: The expected outcome of the course is to familiarize the students with

		contemporary debates on feminism, different dimensions of feminism and the history of the feminist movement.
13.	GE – 3	Students will introduce Ambedkar's ideas and their relevance in contemporary India, by looking beyond caste; Students will introduce Ambedkar's philosophical contributions towards Indian economy and class question, sociological interpretations on religion, gender, caste and cultural issues; ideas on politics such as concepts of nation, state, democracy, law and constitutionalism are to be pedagogically interrogated and interpreted; Students will be able to critically engage themselves with the existing social concerns, state and economic structures and other institutional mechanisms. Students will be able to strengthen their creative thinking with a collective approach to understand the ongoing social, political, cultural and economic phenomena of the society.
14.	GE – 4	Students will understand the process of globalization from a political perspective; the issues and processes globalization based on critical analysis of the various anchors and dimensions of globalization
15.	501	Students will acquire knowledge of the basic concept and ideological orientation of the discipline.
16.	502	Contribution of the main tradition of Indian Political thought
17.	503	Domestic sources and structural constraints on the genesis, evolution and practice of Indian foreign policy
18.	504	Diverse perspective on International Law
19.	601	Human Right among students through study of aspects of human right.
20.	602	Concepts, issues related to feminism and gender study
21.	603	Process of administration in Indian context
22.	604	Process of rural development administration in Indian Perspective

## Department of Sociology

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Students will study Introduction to Sociology – I; Sociology of India – I
	(2) Student will learn Introduction to Sociology – I; Sociology of India – II
	(3) Student will study on Political Sociology, Sociology of Religion; Sociology of Gender
	(4) Student will study on Economic Sociology, Sociology of Kinship; Social Stratification
	(5) Sociology of development; Sociology in North- East India; Understanding social psychology; Understanding social psychology
	(6) Globalization and society; Science, technology and society; Sociology and Industry; Sociology of Health and Hospital Management

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	The mandate of the course is to introduce the discipline to students from diverse trainings and capabilities. The course is intended to introduce the students to a sociological way of thinking. It also provides a foundation for the other more detailed and specialized courses in sociology.
2.	C – 2	This paper introduces the processes and modes of construction of knowledge of India. Further, it aims to draw attention to the key concepts and institutions which are useful for the understanding of Indian society.
3.	C – 3	The course aims to provide a general introduction to sociological thought. The focus is on studying from the original texts to give the students a flavor of how over a period of time thinkers have conceptualized various aspects of society. This paper also provides a foundation for thinkers in the other papers. Classes Tutorials Marks
4.	C – 4	This paper aims to draw attention to the variety of ideas and debates about India. Further, it critically engages with the multiple socio-political forces and ideologies which shape the terrain of the nation. Classes Tutorials M
5.	C – 5	Political Sociology: Paper seeks to establish relationship between society and politics through the themes of power, governance etc. Students should be aware about the theoretical debate about politics.
6.	C – 6	Sociology of Religion: This paper seeks to link between social setting and religion, how the religion has been institutionalised by any community in society.
7.	C – 7	Sociology of Gender: It seeks to make the students aware about the societal construction of sexes through many theoretical debates; how and why man and woman are placed in different position in society.

8.	C – 8	Economic Sociology: This paper aims to provide understanding of the social and cultural bases of economic activity.
9.	C – 9	Sociology of Kinship: This paper aims to give the principles of marriage and kinship in society with the help of many ethnographic study and theoretical perspectives.
10.	C – 10	Social Stratification: This paper aims to introduce the students towards sociological understanding of social inequalities in societies.
11.	GE – 1	This course seeks to provide an interdisciplinary introduction to Indian society.
12.	GE – 2	Family is one of the vital institutions of human society. It is experienced intimately and debated keenly. This course attempts to introduce students to a range of contemporary concerns pertaining to this institution from a sociological perspective and with an interdisciplinary orientation.
13.	GE – 3	Rethinking Development: This paper aims to provide the broader understanding of Development. It aims to teach students that development is not limited only to economy, but also it extends to the quality of life of people.
14.	GE – 4	Gender and Violence: The objective of this paper is to provide the knowledge that gendered violence is based on gender created in society and it is routine, structured and situated.
15.	501	Sociology of development: meaning of Sociology of development and changing conception of development, basic knowledge of theories, path and agencies of development along with Indian experience of development
16.	502	Sociology in North- East India : Historical background of the North-East Frontier Region as a unique sociological spot of observation as it has been occupied by different ethnic groups or people, their diverse cultural traits and preservation of the respective social system.
17.	503	Understanding social psychology: Basic understanding of Social psychology, development of student's own personality in the society.
18.	504	Sociology of mass communication: Sociological understanding of mass communication, to develop the process of interaction in day to day and everyday working life.
19.	601	Globalization and society: Characteristics and issues relating to globalization, various agencies involved in the process and examines its socioeconomic and cultural impact
20.	602	Science, technology and society: Sociological understanding of Science and technology, the impact of science and technology on the society
21.	603	Sociology and Industry: Theoretical knowledge of society of industry, to understand the social structure of the industry and its practical aspects.
22.	604	Sociology of health & hospital management: inter-relationship between society and health, the problems of health in India in its dimensions and also the relationship between political economy and health at national and international levels

## 2. B.Sc. Major (Old Semester System) & B. Sc. Honours (CBCS) Course outcome:

### Department of Physics

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Students will study on Mathematical Physics I; Mathematical Physics I
	(2) Student will learn on Electricity & Magnetism; Waves and Optics
	(3) Student will study on Mathematical Physics II; Thermal Physics; Digital Systems and Applications
	(4) Student will study on Mathematical Physics III; Elements of Modern Physics; Elements of Modern Physics
	(5) Concept & Ideas of differential equations, complex variable and Fourier series; Concept & ideas of electromagnetic fields, propagation of electromagnetic waves and special relativity; Concept & ideas of the quantum theory of atoms, fine structures of atoms, molecular spectra and laser; Concept & ideas of semiconductors, transistor and oscillator, integrated circuits and digital electronics
	(6) Concept & ideas of classical statistical physics, entropy and partition function, quantum statistical physics; Concept & ideas of crystal structure, properties of solids, semiconductor materials and superconductivity; Concept of properties of atomic nuclei, nuclear models, nuclear reactions, cosmic rays and elementary particles; Concept of material science and their classification, nanomaterials, properties of nanostructured materials and nanomaterial characterization

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	<b>MATHEMATICAL PHYSICS :</b> At the completion of this course, a student will be able to write a problem in Physics in the language of Mathematics, identify a range of diverse mathematical techniques to formulate and solve a problem in basic Physics, analyze some of the basic mathematical concepts and methods, apply the knowledge and understanding of these mathematical methods to solve problems in a number of elementary branches of Physics like mechanics, electromagnetic theory, statistical Physics, thermal Physics etc., acquire knowledge of computer programming and numerical analysis and know its role in solving problems in Physics. Construct a problem in Physics computationally.
2.	C – 2	<b>MECHANICS:</b> At the completion of this course, a student will be able to understand the basic concepts and ideas in mechanics such as motion, force and torque, mass and moment of inertia, linear and angular momentum, kinetic energy and potential energy etc. by parallel studies of linear dynamics and rotational dynamics. Students will also learn the basic conservation laws by studying them in various mechanical systems including collisions,

		oscillations, gravitational systems etc., analyze simple harmonic oscillator in detail, planetary motions as a central force problem. Understand the concept of frame of reference, importance of relative transformations and invariance of laws of Physics. Realize the consequences of non-inertial frame in our real physical world. Know about the peculiar phenomena of special relativity which are not seen in Newtonian relativity and to understand the concept of space-time
3.	C – 3	<p><b>ELECTRICITY AND MAGNETISM:</b> At the completion of this course, a student will be able to: Gain basic knowledge of electricity and magnetism, the electrical and magnetic properties of matter, in brief, the effect of electric field on the magnetic field and the effect of magnetic field on current.</p> <p>4. Understand the basic principle of the electrical circuit (AC) circuit and electrical networking.</p> <p>5. Acquire basic theoretical as well as experimental skills on electrical networking.</p>
4.	C – 4	<p><b>WAVES AND OPTICS</b></p> <p>At the completion of this course, a student will be able to</p> <ol style="list-style-type: none"> <li>1. Learn the basics of wave motion.</li> <li>2. Know about the behaviour of light due to its wave nature.</li> <li>3. Identify and understand different phenomena due to the interaction of light with light and matter.</li> <li>4. Analyze some of the fundamental laws and principles of light which is used in many important optical instruments.</li> </ol>
5.	C – 5	The course objectives are to write a problem in Physics (slightly more advanced than those in Mathematical Physics I) in the language of Mathematics; to identify a range of diverse mathematical techniques to formulate and solve a problem in basic Physics; to analyze some of the useful mathematical methods; to apply the knowledge and understanding of these mathematical methods to solve problems in a number of fundamental topics in Physics; to construct a problem in Physics computationally.
6.	C – 6	At the completion of this course, a student will be able to Develop knowledge on the classical laws of thermodynamics and their application; use the knowledge of thermodynamics in various applications in allied fields like Materials science, Condensed matter Physics, Atmospheric Physics, Solar Physics, etc.; probe questions in varied fields of Physics, chemistry and biology based on principles of Thermal Physics; use the concept of thermodynamics in real-world experiences; develop critical and analytical thinking of the student on thermodynamics and allied disciplines
7.	C – 7	The outcome of the course is to know about the basic laboratory equipment electronics; to understand basic digital electronics concepts and devices; to analyze digital circuits.

8.	C – 8	At the completion of this course, a student will be able to write a problem in Physics (slightly more advanced than those in Mathematical Physics I and II) in the language of mathematics; to identify a range of diverse mathematical techniques/ideas to formulate, simplify and solve some problems in Physics; Analyze some of the useful mathematical ideas and techniques; Apply the knowledge and understanding of these mathematical methods to solve problems in a number of fundamental topics in Physics; Construct a problem in Physics computationally and use simulations to design an experiment.
9.	C – 9	At the completion of this course, a student will be able to understand the theoretical basis for the understanding of quantum Physics as the basis for dealing with macroscopic phenomena; apply concepts of 20th Century Modern Physics to deduce the structure of atoms; explain the wave-particle duality of the photon; analyze the structure of matter at its most fundamental; develop insight into the key principles and applications of Nuclear Physics
10.	C – 10	At the completion of this course, a student will be able to know about the basics of semiconductor PN junctions, its various types and its application to different electronic circuits; understand bipolar junction transistors and its applications as amplifiers and oscillators; familiarize with operational amplifiers, its applications and analysis; develop knowledge about analogue to digital and digital to analogue conversion techniques
11.	GE – 1	<b>MECHANICS</b> At the completion of this course, a student will be able to Understand the basics of vector algebra and the techniques of solving ordinary differential equations, basic components of mechanics like motion, force and torque, mass and moment of inertia, linear and angular momenta, kinetic energy and potential energy etc. and the conservation theorems, mechanics of gravitational systems and simple harmonic motion, elastic behaviour of materials and idea of the frame of reference and its implications in the study of special relativity.
12.	GE – 2	<b>ELECTRICITY AND MAGNETISM</b> At the completion of this course, a student will be able to : 1. Understand basic knowledge of electricity and magnetism. 2. Understand basic knowledge of electrical and magnetic properties of matter in brief. 3. Understand the basic knowledge of the effect of electric field on the magnetic field and the effect of magnetic field on current. 4. Understand the basic principle of the electrical circuit (AC) circuit and electrical networking. 5. Develop basic theoretical as well as experimental skills on electrical networking.
13.	GE – 3	At the completion of this course, a student will be able to develop the working knowledge of the laws and methods of thermodynamics and elementary statistical mechanics; provide

		insight to the postulates of Statistical Mechanics and statistical interpretation of thermodynamics; understand the laws of radiation and acquire knowledge for their applications in various disciplines in Physics, Chemistry, Biology, Earth and Atmospheric Sciences; develop application-oriented knowledge on laws of statistical mechanics in selected problems; use the methodologies, conventions and tools of thermal and statistical physics to test and communicate ideas and explanation
14.	GE – 4	At the completion of this course, a student will be able to learn the basic ideas of the behaviour of light based on its wave nature; develop the knowledge of the different phenomena due to the interaction of light among them and with mater; learn about some fundamental principles of light which are used in the different optical instrument which very essential for Physics student.
15.	501	Concept & Ideas of differential equations, complex variable and Fourier series
16.	502	Concept & ideas of electromagnetic fields, propagation of electromagnetic waves and speid relativity
17.	503	Concept & ideas of quantum theory of atoms, fine structures of atoms, molecular spectra and laser.
18.	504	Concept & ideas of semiconductors, transistor and oscillator, integrated circuits and digital electronics
19.	601	Concept & ideas of classical statistical physics, entropy and partition function, quantum statistical physics
20.	602	Concept & ideas of crystal structure, properties of solids, semiconductor materials and superconductivity
21.	603	Concept of properties of atomic nuclei, nuclear models, nuclear reactions, cosmic rays and elementary particles
22	604	Concept of material science and their classification, nanomaterials, properties of nanostructured materials and nanomaterial characterization.



## Department of Chemistry

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Students will study on Inorganic Chemistry – <i>Atomic Structure and Chemical Bonding</i> ; Physical Chemistry – <i>States of Matter and Ionic Equilibrium</i>
	(2) Student will learn on Organic Chemistry – <i>Hydrocarbons and Stereochemistry</i> ; Physical Chemistry – <i>Chemical Thermodynamics and its Applications</i>
	(3) Student will study on Inorganic Chemistry – <i>s- &amp; p-block Elements and Metallurgy</i> ; Organic Chemistry – <i>Halogen &amp; Oxygen Containing Functional Group</i> ; Physical Chemistry – <i>Phase Equilibria and Chemical Kinetics</i>
	(4) Student will study on Inorganic Chemistry – <i>Coordination Chemistry and its Applications</i> ; Organic Chemistry – <i>Heterocyclic Chemistry</i> ; Physical Chemistry – <i>Electrochemistry</i>
	(5) Impacts and ideas of kinetics, solution equilibrium and surface phenomena; Organometallic compounds, cluster and organic reagents in inorganic analysis; Different types of organic reaction and biochemistry; Quantum mechanics with special reference to classical mechanics, symmetry and bonding
	(6) Photochemistry, macromolecules, catalysis etc; Inorganic chemistry; Highlights the concept of different analytical tools like UV,IR,NMR in organic chemistry; Interaction of electromagnetic radiation with matter

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	Basic Knowledge of Chemistry in relation to atomic structure, bonding, periodicity etc., students will gain an understanding of Sign of wave function, Counter boundary and Probability diagrams, Variations of orbital energy with atomic number, principle involved in volumetric analysis etc.
2.	C – 2	Different states of matter and their mechanical treatment. Students will gain an understanding of kinetic model of a gas, behavior of real gas, effect of addition of various solutes solute on surface tension, and viscosity. Nature of solid state, elementary idea of symmetry, idea solubility and solubility product of sparingly solubility salts.
3.	C – 3	Preliminary knowledge in basic organic chemistry, hydrocarbons, stereochemistry, and conformational analysis. Students will acquire knowledge of different types of reaction and mechanism.
4.	C – 4	Strong knowledge on chemical thermodynamics, their mathematical expression and application, concept of free energy change and spontaneity. Student will gain an

		understanding of deviation of relation between the four colligative properties using chemical potential.
5.	C – 5	Students will gain an understanding of Predict the purification of metal, study of compounds with emphasis on structure, bonding, preparation and properties; Real-world applications, shapes etc of noble gas; Structural aspects and applications of inorganic polymer
6.	C – 6	Students will gain an understanding of The prediction of mechanism for organic reactions; How to design synthesis of organic molecules; The reactivity and stability of organic molecules based on structure; An idea of alcohols, phenols, carbonyl compounds, acids and their derivatives etc
7.	C – 7	Students will gain an understanding of Types of catalysis, Michaelis – Menten mechanism, mechanism of catalysed reaction at solid-state; Steady - state approximation in the reaction mechanism; Concept of phases, phase diagrams for systems of solid-liquid equilibria involving eutectic, congruent and incongruent mp, solid solution etc
8.	C – 8	Students will gain an understanding of Predicting metal ion present in biological systems; Use of chelating agents in medicine; Quantitative aspect of ligand field and MO theory, stability of various oxidation states and emf of transition elements
9.	C – 9	Students will gain an understanding of Reaction for preparation of Heterocyclic compounds, polynuclear hydrocarbons; Reaction and mechanism of substitution in heterocyclic compounds; Methods of structure elucidation of terpenoids
10.	C – 10	Students will gain an understanding of Quantitative aspects of Faraday's laws of electrolysis; Application of conductance measurement; Electrical and magnetic properties of atoms and molecules
11.	GE – 1	Basic knowledge of chemistry in relation to atomic structure, chemical bonding and molecular structure. Students will gain knowledge on fundamentals of organic chemistry, stereochemistry and aliphatic hydrocarbon.
12.	GE – 2	Knowledge on chemical energetics, chemical equilibrium, ionic equilibrium and their mathematical expression and application, atomic hydrocarbons, alkyl and aryl halides, phenols, alcohols and ethers.
13.	GE – 3	The students will learn about Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II
14.	GE – 4	The students will learn about Transition metals, Coordination Chemistry, States of Matter and Chemical Kinetics
15.	501	Impacts and ideas of kinetics, solution equilibrium and surface phenomena
16.	502	Practical : Physical chemistry
17.	503	Organometallic compounds, cluster and organic reagents in inorganic analysis
18.	504	Practical : Inorganic chemistry
19.	505	Different types of organic reaction and biochemistry
20.	506	Practical : organic chemistry

21.	507	Quantum mechanics with special reference to classical mechanics, symmetry and bonding
22.	508	Practical : Inorganic chemistry
23.	601	Photochemistry, macromolecules, catalysis etc
24.	602	Practical based on paper 601
25.	603	Inorganic chemistry
26.	604	Practical based on paper 603
27.	605	Highlights the concept of different analytical tools like UV,IR,NMR in organic chemistry
28.	606	Practical based on paper 605
29.	607	Interaction of electromagnetic radiation with matter
30.	608	Project Work

## Department of Mathematics

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Students will study on Calculus; Algebra
	(2) Student will learn on Real Analysis; Differential Equations
	(3) Student will study on Theory of Real functions; Group Theory I; PDE and Systems of ODE
	(4) Student will study on Numerical Methods(P); Riemann Integration and Series of Functions; Ring Theory and Linear Algebra I
	(5) Basics of Mathematical logic, counting principles and generalized analytical aspects; Algebraic structures for explaining geometric concepts, fundamentals of numbers and their properties; Fundamental concepts of fluid mechanics and its various application in physical science; Mathematical background of mechanics and the corresponding problem solving techniques
	(6) Topological structures and generalization concepts arising out of real analysis; Relation between mathematics and theoretical computer science, fundamentals of graph theory and different representations of a graph for practical applications.; Characteristics of abstract algebraic structures and the process of partial differential equations; Application of mathematical principles to the problems of Financial Mathematics and operation research

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	After going through this course the students will be able to apply Calculus in real life problems and to formulate mathematical models.
2.	C – 2	After going through this course the students will be able to describe various algebraic structures on sets and can identify the algebraic structures present in different branches of sciences.
3.	C – 3	After going through this course the student will be able to identify the properties of the number system and can describe various analytical properties of the real number system
4.	C – 4	After going through this course the students will be able to use the techniques to solve differential equations and

		can apply these techniques in various mathematical models used in real life problems.
5.	C – 5	After going through this course the students will be able to Discuss limit, continuity and differentiability of real valued functions; Expand functions in series and different form of remainders
6.	C – 6	After going through this course the students will be able to Describe various group structures on sets; Identify the group structures present in different branches of sciences.
7.	C – 7	After going through this course the students will be able to make mathematical formulations and their solutions of various physical problems; design mathematical models used in heat, wave; Describe the Laplace equation and their solutions.
8.	C – 8	After going through this course the students will be able to Discuss various numerical methods and interpolation formulae; Apply numerical techniques for solving differential equation
9.	C – 9	After going through this course the students will be able to Riemann integration, improper integrals, Differentiation and integration of powerseries
10.	C – 10	After going through this course the students will be able to Describe various ring structures on sets; Solve the system of linear equations.
11.	GE – 1	Students will be able to differentiate functions and to find tangent normal, curvature, asymptotes etc.
12.	GE – 2	Students will be able to describe various methods for solving differential equations.
13.	GE – 3	After going through this course the students will be able to Analyse the properties of the number line; Describe various analytical properties of the real number system
14.	GE – 4	After going through this course the students will be able to Describe various algebraic structures onsets; Identify the algebraic structures present in different branches ofSciences
15.	501	Basics of Mathematical logic, counting principles and generalized analytical aspects
16.	502	Algebraic structures for explaining geometric concepts, fundamentals of numbers and their properties
17.	503	Fundamental concepts of fluid mechanics and its various application in physical science
18.	504	Mathematical background of mechanics and the corresponding problem solving techniques
19.	601	Topological structures and generalization concepts arising out of real analysis
20.	602	Relation between mathematics and theoretical computer science, fundamentals of graph theory and different representations of a graph for practical applications.
21.	603	Characteristics of abstract algebraic structures and the process of partial differential equations
22.	604	Application of mathematical principles to the problems of Financial Mathematics and operation research, Application of mathematical principles to the problems of space dynamics and relativity

## Department of Botany

<b>PROGRAMME SPECIFIC OUTCOME (PSO)</b>	(1) Students will study on Microbiology and Phycology; Biomolecules and Cell Biology
	(2) Student will learn on Mycology and Phytopathology; Archegoniate
	(3) Student will study on Morphology and Anatomy; Economic Botany; Genetics
	(4) Student will study on Molecular Biology; Plant Ecology and Phytogeography; Plant Systematics
	(5) Fundamental knowledge of development and reproduction of angiosperms; Single and double staining method to study internal structure of stem; Basic knowledge of plant genetics and plant breeding and application of statistics in biology; Fixation, staining and squashing/ smearing of materials for chromosome preparation; Biomolecules, secondary metabolites and plant hormones; Qualitative & quantitative analysis of secondary metabolites and plant pigments; Plant ecology, its basic principle and concept, structure and function of natural plant units, habitat degradation; Knowledge of common instruments, study of floristic composition, determination of minimum sampling size and sample to be taken for vegetation study
	(6) Plant physiology; Fundamentals of molecular biology and immunology; Biophysics and bioinformatics ; Comprehensive knowledge of usefulness of plant resources for human welfare; Determination of soil pH, soil moisture, Water Holding Capacity of different soil sample

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	Students can acquire knowledge on microbial world which includes bacteria, viruses and other prokaryotic organisms and their applications with reference to vaccine production, role in research, medicine and diagnostics, in agriculture and industry etc. and about algae
2.	C – 2	Students will be able to understand about Biomolecules such as carbohydrates, lipids, proteins and DNA and its type, bioenergetics and Cell and cell organelles, their function, cell cycle and cell division, regulation of cell cycle etc.
3.	C – 3	Basic and applied mycology and plant diseases
4	C – 4	Archegoniate, which includes Bryophyte, Pteridophyte and Gymnosperm

5	C – 5	Students can learn about the anatomy of Angiosperms- Plant tissues, structure and development of plant body and adaptive and protective Systems
6	C – 6	Students can learn about economically important plants, origin of cultivated plants and about different types of plants of economic importance like cereals, legumes, sugar yielding plants, oil yielding plants etc.
7	C – 7	Student can acquire knowledge about genetics- Mendel's Law, extra-chromosomal inheritance, linkage and crossing over, chromosome and gene mutation, fine structure of gene, population genetics etc.
8	C – 8	Student can learn about Nucleic acids its structure (both DNA & RNA), replication of DNA, about central dogma and genetic code, processing and modification of RNA, transcription and translation processes.
9	C – 9	Students can acquire the knowledge of plant ecology and phytogeography, about soil formation and its physical and chemical properties and also about soil profile etc., structure and function of ecosystem, structure and function of ecosystem, plant communities, biotic interaction, phytogeography etc.
10	C – 10	Students will be able to know the in depth knowledge about Plant systematics and its significance, taxonomic hierarchy, botanical nomenclature, classification system, biometrics and phylogeny of Angiosperm
11	GE – 1	Biodiversity includes, Microbes, Algae, Fungi, Lichen and Archegoniate
12	GE – 2	Students will be able to know about Plant Physiology and metabolism
13	GE – 3	Students are able to know detail about Plant Anatomy and Embryology.
14	GE – 4	Students can acquire the knowledge about Plant Ecology and Taxonomy
15	501	Fundamental knowledge of development and reproduction of angiosperms
16	502	Single and double staining method to study internal structure of stem, leaf and root, anomalous type based on paper 501 maceration of tissue, preparation of temporary and permanent slides
17	503	Basic knowledge of plant genetics and plant breeding and application of statistics in biology
18	504	Fixation, staining and squashing/ smearing of materials for chromosome preparation( mitosis & and meiosis study), simple calculation of Mendelian ratio, method of emasculation, computation of central tendency, deviation, t-test, chi square test
19	505	Biomolecules, secondary metabolites and plant hormones
20	506	Qualitative & quantitative analysis of secondary metabolites of different plant sample, qualitative & quantitative estimation of photosynthetic pigments and determination of antioxidant of various food and medicinal importance.

21	507	Plant ecology, its basic principle and concept, structure and function of natural plant units, habitat degradation and role of plant on improvement of habitat, conservation ecology, phytogeography and evolution of plants
22	508	Knowledge of common instruments, study of floristic composition, determination of minimum sampling size and sample to be taken for vegetation study, determination of abundance density, percentage frequency, determination of root-shoot ratio, relative growth rate, analysis of structure of ecosystem, study of standing crop biomass and productivity of an ecosystem.
23	601	Plant physiology
24	602	Practical based on paper 601
25	603	Fundamentals of molecular biology and immunology
26	604	Biophysics and bioinformatics : Tools and techniques of physical and computer sciences used in biological study
27	605	Practical based on paper 603 & 604
28	606	Comprehensive knowledge of usefulness of plant resources for human welfare
29	607	Determination of soil pH, soil moisture, Water Holding Capacity of different soil sample, botanical characteristics of useful part(s) and products of economically important plant, determination of protein, fat, oil content of certain material
30	608	Practical based on paper 603 & 604



## Department of Zoology

### PROGRAMME SPECIFIC OUTCOME (PSO)

- |  |   |
|--|---|
|  | (1) Students will study on Non-chordates I: Protista to Pseudocoelomates; Principles of Ecology   |
|  | (2) Student will learn on Non-chordates II: Coelomate; Cell Biology   |
|  | (3) Student will study on Diversity of chordates; Physiology: Controlling and Coordinating systems; Fundamentals of Biochemistry  |
|  | (4) Student will study on Comparative anatomy of vertebrates; Physiology: Life Sustaining Systems; Biochemistry of Metabolic Processes;   |
|  | (5) Genetics : Laws of Mendals, deviations, gene interactions, fine structure of gene, linkages; Chromosomal study, calculation based on Mendal's law; Various physiological processes of human being, drug addiction & its impact on society; Determination of various physiological processes, preparation of haemin crystal osmosis; Ecosystem, biogeochemical cycle, pollution, conservation of wildlife, non renewable resources & their conservation; Estimation of size of population, abundance & density determination; Comparative anatomy of various endocrine glands, hormone secreted by them; Histoligical preparation and dissection of endocrine gland, preparation |
|  | (6) Various parasites, their vectors, as well as various modes of animal behaviours; Identification of vectors of some diseases, protozoan parasites, habituation of mosquito larvae; Structure and function of nucleic acid, replication, transcription, recombination; Scope and application of Biotechnology, its regulation, ethics, IPR; Study of blood cell types , determination of blood groups & Rh factor, study of lymphoid organ; Various pest of paddy, tea & stored grain, life cycle of silkworm & culture techniques; Identification of silkworms, their various stages, submission of life cycle of silkworm;  |

### COURSE SPECIFIC OUTCOMES (COs)

SL. NO.	COURSE/PAPER CODE	COURSE OUTCOMES
1.	C – 1	The students are able to understand classification of non-chordates diversity and some special features like process of reproduction, life cycle, pathogenicity and evolutionary significance.
2.	C – 2	Students will acquire the basic knowledge of fundamentals of ecology, behavior, evolution, physiology and relationships

		among these; biotic and abiotic factors that are related to individual, population, community and ecosystem and their relationship between; basic environmental management strategies. Students will develop skill in the observation and experimental study of different ecosystem using both laboratory and field based approaches.
3.	C – 3	Students can learn about the coelomates groups of invertebrates, Arthropoda, metamorphosis in insects, about Onychophoran species and Mollusca and their evolutionary significance and also about Echinodermata phylum.
4.	C – 4	Students can learn about Cell Biology: cell types, cell organelle, membrane transport, cell division, cell cycle and its regulation.
5.	C – 5	Students can learn about Diversity of Chordates
6.	C – 6	Physiology: Controlling and Coordinating Systems
7.	C – 7	Fundamentals of Biochemistry
8.	C – 8	Comparative Anatomy of Vertebrates
9.	C – 9	Physiology: Life Sustaining Systems
10.	C – 10	Biochemistry of Metabolic Processes
11.	GE – 1	Students will acquire the knowledge about animal diversity, both invertebrate and vertebrate
12.	GE – 2	Students can learn about insects vector and diseases.
13.	GE – 3	Student can learn about Aquatic Biology
14.	GE – 4	Students will acquire Knowledge on Environment and Public Health
15.	501	Genetics : Laws of Mendel's, deviations, gene interactions, fine structure of gene, linkages, crossing over, human genome project, Evidences & theories of evolution
16.	502	Chromosomal study, calculation based on Mendel's law, study of organisms / material of evolutionary significance
17.	503	Various physiological processes of human being, drug addiction & its impact on society.
18.	504	Determination of various physiological processes, preparation of haemin crystal osmosis, muscle twitch, RBC/WBC counting, qualitative test for salivary amylase.
19.	505	Ecosystem, biogeochemical cycle, pollution, conservation of wildlife, non renewable resources & their conservation.
20.	506	Estimation of size of population, abundance & density determination, structural components of ecosystems, determination of CO <sub>2</sub> , O <sub>2</sub> & alkalinity in water samples & how to prepare field visit
21.	507	Comparative anatomy of various endocrine glands, hormone secreted by them, mechanism of its actions, IVF, amniocentesis, pregnancy, parturition & lactation, neuroendocrine system of insects

22.	508	Histological preparation and dissection of endocrine gland, preparation and submission of charts/ models of endocrine glands.
23.	601	Various parasites, their vectors, as well as various modes of animal behaviours.
24.	602	Identification of vectors of some diseases, protozoan parasites, habituation of mosquito larvae, tactic behavior of certain organisms.
25.	603	Structure and function of nucleic acid, replication, transcription, recombination, conjugation, regulation of gene expression, operon concept & detail knowledge of immunity & immunoglobulins, AIDS & immunodiagnostic techniques.
26.	604	Scope and application of Biotechnology, its regulation, ethics, IPR, scope of Bio-informatics, sources, www & web browsers, biological database ( NCBI, SWISS –PROT) , database search and sequence alignment
27.	605	Study of blood cell types , determination of blood groups & Rh factor, study of lymphoid organ, estimation of RNA, immuno---, database search & similarity search in sequence ( BLAST/ FASTA), creation of database
28.	606	Various pest of paddy, tea & stored grain, life cycle of silkworm & culture techniques, honey bee, lac insects, aquaculture, piggery, poultry
29.	607	Identification of silkworms, their various stages, submission of life cycle of silkworm, epiculture techniques and extraction of honey, identification of weeds, analysis of nutrients, demonstration of induced breeding in fish, identification of pest of paddy. Economically important fish, prawn.
30.	608	

## 2. GENERAL COURSES (GENERIC ELECTIVE)

1.	Statistics	GE I	After completion of the course students will be able to understand about the Statistical Methods
		GE II	After completion of the course student will be able to understand about probability
		GE III	Student can learn in detail about methods of Sample survey
		GE IV	Students can learn about Basics of Statistical Inference

### 3. Compulsory course both for B.A. & B.Sc. Programme

SL No.	Course Name	Course / Paper Code	Course outcomes
1.	Environmental science	AECC (2 <sup>nd</sup> Sem. CBCS)	Students will get the knowledge about environment, its definition scope and importance as well as need for public awareness. This course encompasses all the dimensions of environmental issues from Natural resources to sustainable development
2	NSS and Youth Development	SEC – I	Learners will have the knowledge about NSS and its role in the fields of health, hygiene and sanitation so as to build a strong country. They will be able to use Yoga for healthy living.
		SEC – II	Learners will learn to appreciate the concerns regarding the environment. They will have the background information to start a venture. They will also be able to prepare a socio-economic development plan.
3.	Web Design	SEC – I	On completion of the course, students will be able to – Develop and publish web sites. – Resolve Code and troubleshoot HTML web pages, incorporating CSS.
		SEC – II	On completion of the course, students will be able to Develop and publish web sites and to Resolve Code and troubleshoot web pages incorporating HTML5, JavaScript and PHP

### 4. Short term Add on Certificate Course outcomes:

SL.No	Short term course	Course outcomes
1.	Organic Farming and Production of Organic Inputs	Basic Knowledge and importance of organic farming, production of vermi-compost, organic-compost, liquid bio-fertilizer, bio-pesticide, etc.
2.	Basic computer application	Basics of computer hardware, software and networking, basic skills in using Windows and Microsoft office
3.	Internet based web designing	Introduction to the World of internet and its operation and designing Web sites, how they are designed and developed as per the changing time
4.	Computer Hard ware and Networking	Physical organization of computer, how computers are interconnected in the computer network and about networking device via networking
5.	Entrepreneurship development	Necessary knowledge and skills to develop and strengthen entrepreneurial quality, to analyze environmental set up relating to small industry and promoting it, understanding the process and procedure involved in setting up small units., sources of help and support available for starting and a small scale industry etc
6.	Personality development and Human Value	Personality Development: Enhance self-awareness through identification and articulation. Self-awareness will lead to effective leadership, help to develop personal and professional responsibility. Human value: Help students discriminate between valuable and superficial in real life situation; teach students to live in harmony; sensitize students about creation of a human society; help to develop critical ability and commitment toward society.

7.	Leadership development	Will learn to have an honest understanding of themselves and others; to articulate a vision; will be excellence oriented, decisive, intelligent and a problem solver; will help create an environment where people can thrive, grow and live in peace; create communications of reciprocal care.
8.	Fine Art	Student will acquire knowledge on various topics of Fine Arts / Visual Arts, technical theory on Fine Arts/ visual Art, ' World Famous' Artists ( International, Indian, Assamese), theory for Human figure study. Students will also learn about Natural Composition ( Figurative/ Non Figurative) and also acquire skills in painting through various medium like Colour Pencil(w/c pencil), Water colour, Oil Colour Acrylics, Pen and Ink, Charcoal.3D Drawing, Tempera Method, Poster Design, Collage and Clay Model

5. Spoken Tutorial Course (Online): It is an open source software training programme. After completing the course students become IT literate.

*R. B. Deka*

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