

**Udaya Nath Autonomous College of Science & Technology,**  
**Cuttack, Odisha**

**Programme Outcome of Three Year Degree Course**

**PO1. Critical Thinking:**

Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

**PO2. Effective Communication:**

Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

**PO3. Social Interaction:**

Elicit views of others, mediate disagreements and help reach conclusions in group settings.

**PO4. Effective Citizenship:**

Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

**PO5. Ethics:**

Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

**PO6. Environment and Sustainability:**

Understand the issues of environmental contexts and sustainable development.

**PO7. Self-directed and Life-long Learning:**

Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

# Course Outcomes

## Economics (UG)

<b>Core-1 ( Introductory Micro Economics)</b>	
CO1	Understanding the basic of microeconomics
CO2	To understand the concept of Demand supply
CO3	To apply economics in real life situation
CO4	Student will able to know the concept of Economics
<b>Core-2 ( Mathematical Methods for Economics-I)</b>	
CO1	Student will able to know the applied part of Economics
CO2	To understand the use of set theory and function
CO3	To transmit basic mathematics to the study of Economics
CO4	To know the use of matrix and determinants to economic theory
<b>Core-3 (Introductory Macro Economics)</b>	
CO1	To understand the concept of Macroeconomics and National Income
CO2	To measure aggregate economic variable
CO3	To have basic Ideas of National Income estimation
CO4	Student will able to know the concept of money and inflation
<b>Core-4 (Mathematical Methods for Economics-II)</b>	
CO1	Use of mathematics in micro and macro economics
CO2	To understand input and output model
CO3	To have knowledge and application on derivative and optimization
CO4	Student will able to know the effect of constraint
<b>Core-5 (Micro Economics I)</b>	
CO1	To analyze the behaviour of consumer
CO2	To understand the behaviour of producer
CO3	To understand the behaviour of firm
CO4	To have idea on cost & revenue
<b>Core-6 (Macro Economics I)</b>	
CO1	To understand models of macro economics
CO2	To have knowledge of alternative theories of output and employment
CO3	To have knowledge on open Economy
CO4	To have idea on Inflation and unemployment
<b>Core-7 ( Statistical Methods for Economics)</b>	
CO1	To have basic knowledge on statistical tools
CO2	To have idea on collection and interpretation of data
CO3	To know the concept of probability and sampling
CO4	To know about index number
<b>Core-8 (Micro Economics II)</b>	
CO1	To use of mathematical tool in microeconomics
CO2	To have idea of welfare economics
CO3	To have knowledge on Game Theory
CO4	To have idea on various forms of market
<b>Core-9 (Macro Economics II)</b>	
CO1	To understand issues like growth technical progress
CO2	To have idea on classical and neo classical macroeconomic thought
CO3	To acquaint the students on macroeconomic model
CO4	To understand the concept of macroeconomic policy
<b>Core-10 ( Research Methodology)</b>	
CO1	To have a basic idea on research
CO2	To acquaint the students on fundamental research method
CO3	To have idea on report writing
CO4	To know about review of literature
<b>Core-11 (Indian or Economy I)</b>	
CO1	To have basic ideas on Indian economy
CO2	To understand the impact British rule on Indian economy

CO3	To have basic knowledge current economic problems
CO4	To know the growth story of India
<b>Core-12 (Development Economic I)</b>	
CO1	To have idea on economic development & economic growth
CO2	To analyze various theories of growth & development.
CO3	Student will able to know poverty & inequality
CO4	To acquaint the students with Institution
<b>Core-13 (Indian or Economy II)</b>	
CO1	Student will able to know about agriculture
CO2	To have knowledge on various theories of growth
CO3	To analyze the impact of environment on Indian economy
CO4	To know the trends of key economic indicators
<b>Core-14 (Development Economic II)</b>	
CO1	Student will able to know the relationship between population and Economic Department
CO2	Student will acquire knowledge on dualism
CO3	Student will able to gather knowledge of environment and its impacts on economy
CO4	Knowledge on international Trade and Economic Department
<b>DSE-1 Odisha Economy</b>	
CO1	To have basic Ideas about History of Odisha Economy
CO2	Student will able to know macro view of Odisha Economy
CO3	The study of Agriculture, Industry, infrastructure& Environment of Odisha.
CO4	The knowledge of social sectors of Odisha
<b>DSE-2 Public Economics</b>	
CO1	Student will able to comprehended the knowledge of public faineance and private finance
CO2	To know the role of public expenditure
CO3	Students are able to know about public revenue
CO4	To know about public debt
<b>DSE-3 International Economty</b>	
CO1	To know about the trade and trade related theories
CO2	To know about the trade policy
CO3	To understand about foreign exchange and theory of exchange rate determination
CO4	To be acquitted with various concept of balance of payment
<b>DSE-4 History of Economy Thought</b>	
CO1	To introduce the students about economic philosophy
CO2	It will give in-depth ideas on classicism and Marxism
CO3	It will be helpful to have knowledge on various Economic thinkers(Western)
CO4	To gather knowledge on Indian Economic thinkers
<b>DSE-4 Research Project</b>	
CO1	To connect Economics in textbook and Classroom
CO2	To expose the student to real world
CO3	To develop a questionnaire
CO4	To develop analytical skill
<b>GE-I Indian Economy I</b>	
CO1	To study the History of Indian Economy /Characteristics
CO2	Student will be able to know about role of agriculture in India
CO3	To know about Industrial development of India
CO4	To know about nature & composition of service sector
<b>GE-II Indian Economy II</b>	
CO1	To know about the external sector
CO2	To know about banking system of India
CO3	Student shall be able to gather knowledge on public finance
CO4	To be acquainted with current Economic challenges of India like Inflation, poverty & Climate change

## Commerce (UG)

<b>Core-1 (Financial Accounting)</b>	
CO1	Student will conversant with the basic accounting knowledge
CO2	Students will acquire conceptual knowledge on accounting standards and measurement of business income and depreciation
CO3	To provide knowledge on capital and revenue items and skill for preparation of financial statements.
CO4	To have knowledge on hire purchase and Installment system
<b>Core-2 (Business Law)</b>	
CO1	To impart knowledge on Indian contract Act and Specific contract Act
CO2	To impart basic knowledge of Sale of Goods Act and Consumer Protection Act
CO3	To impart basic knowledge on Partnership Law
CO4	To impart basic knowledge on Negotiable Instrument Act
<b>Core-3 (Cost Accounting )</b>	
CO1	To acquaint the students with basic concepts use in cost accounting
CO2	To acquaint the students with various methods and techniques in cost accounting
CO3	To acquaint the students with accounting for labour and overheads
CO4	To acquaint the students with accounting for materials and material losses with treatment
<b>Core-4 (Corporate Law) .</b>	
CO1	To impart the basic knowledge on company and its formation
CO2	To impart knowledge on company administration
CO3	To acquaint the student with share capital and debenture and buyback of shares
CO4	To provide knowledge on corporate meetings and preparation of different reports
<b>Core-5 (Corporate Accounting)</b>	
CO1	Student become proficient in Company Account
CO2	Basic knowledge of final account and corporate sectors
CO3	Student will derive knowledge on good will and calculation of good will
CO4	To impart knowledge on liquidation of company and its consequences
<b>Core-6 (Income Tax law and Practice)</b>	
CO1	To provide basic knowledge on various provision of income tax act
CO2	To equip the students with practical application of taxation
CO3	To equip students with calculation of various provision of heads of income
CO4	To compute total income and taxable income ,TDS and its provisions
<b>Core-7 ( Management Principle and Applications</b>	
CO1	To Provide the knowledge of basic management concept
CO2	To impart knowledge on planning and organization and its structure
CO3	To impart knowledge on staffing function
CO4	To impart knowledge on motivation , coordination & communication
<b>Core-8 (GST)</b>	
CO1	To equip the students with principle and provision of GST
CO2	To equip the students with structure and terminology of GST
CO3	To impart knowledge on registration and assessment
CO4	To impart knowledge on GST council and computation of GST ,place and time of GST
<b>Core-9 (Fundamental of Data Management)</b>	
CO1	To impart knowledge on word processing
CO2	To equip the students with spared sheet
CO3	To impart knowledge on DBMS
CO4	Practical application on various web designing tools
<b>Core-10 (Management Accounting.)</b>	
CO1	To acquaint the student with basic concept of management accounting
CO2	To acquaint the student with various techniques and tools used in management accounting
CO3	To impart knowledge on marginal costing and its application
CO4	To impart knowledge on Budgeting and its different types of calculations
<b>Core-11 (To acquaint the student with and E filing on Tax return)</b>	
CO1	To acquaint the student with Computerize accounting Package
CO2	To impart knowledge on designing computerize accounting system
CO3	To familiarize the student with e filing of tax return
CO4	To acquaint the student with the use of DBMS.

<b>Core-12 (Fundamentals of Financial Management)</b>	
CO1	To familiarize the student with basic concepts of financial management
CO2	Student will be able to understand the sources of finance and cost of capital and its calculation
CO3	To acquaint the student with capital expenditure decision
CO4	To acquaint the student with liquidity management and working capital structure
<b>Core-13 (Auditing and corporate Governance.)</b>	
CO1	To provide knowledge on Auditing Principle and techniques
CO2	To provide knowledge on Special areas of Audit and types of Audit
CO3	To provide knowledge on corporate governance
CO4	To provide knowledge on corporate social responsibility and areas where CSR activities occurred
<b>Core-14 (Business Mathematics)</b>	
CO1	To familiarize the student with basic mathematical tools
CO2	To acquaint the student with calculus
CO3	To provide knowledge with mathematics of finance and knowledge about LPP
CO4	To connect the students with the use of excel spreadsheet & CPM pert
<b>DSC-1</b>	
CO-1	To know about the various financial market & Institutions
CO-2	To know the process of trading of different securities
CO3	To know the various commercial and specialized services provided by financial Institution
CO4	To know the various investment avenues
<b>DSC-2</b>	
CO1	To provide knowledge about the financial statement and its Analysis
CO2	To provide knowledge about types of financial statement Analysis
CO3	To know the different methods used to analyze the financial statement
CO4	To know about the comparative statement and common size statement
<b>DSC-3</b>	
CO1	To familiar the students about tax planning relating to corporate sector
CO2	To know the specific provisions regarding tax planning
CO3	To know about the Tax planning ,Tax Avoidance and Tax evasion
CO4	To know the MAT applicable to corporate sector
<b>DSC-4 Research Project</b>	
CO1	To connect Economics in textbook and Classroom
CO2	To expose the student to real world
CO3	to develop a questionnaire
CO4	to develop analytical skill
<b>GE-I Indian Economy I</b>	
CO1	To study the History of Indian Economy /Characteristics
CO2	Student will be able to know about role of agriculture in India
CO3	To know about Industrial development of India
CO4	To know about nature & composition of service sector
<b>GE-II Indian Economy II</b>	
CO1	To know about the external sector
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CO4	To be acquainted with current Economic challenges of India like Inflation, poverty & Climate change

## Botany (UG)

<b>CORE-I: Microbiology and Phycology</b>	
CO1	To Understand the diversity among microorganisms.
CO2	To Know the systematic, morphology and structure of Bacteria.
CO3	Their fine structure, nutrition, reproduction, classification and economic importance
CO4	To Understand the knowledge of Algae, diversity, morphology, structure, life cycle pattern & economic importance
<b>Core -II: Biomolecules and Cell biology</b>	
CO1	To know about different Biomolecules
CO2	Structure,types, synthesis of biomolecules
CO3	To Know the structure and function of different cell organelles.
CO4	Understanding the cell cycle, mitosis, meiosis and it's regulations.
<b>Core-III: Mycology and phytopathology</b>	
CO1	.Understanding the Biodiversity of Fungi.
CO2	To know the morphology,life history of fungi
CO3	Understanding the economic importance of fungi
CO4	Understanding different disease,it's cycle,causal agents, symptoms and control measures.
<b>Core-IV:Archegoniates</b>	
CO1	To understand the morphological diversity and economic importance of the Bryophytes.
CO2	Understand the morphological diversity and economic importance of the Pteridophytes and Gymnosperms.
CO3	To know the evolution of plants in elementary palaeobotany.
CO4	To Know the scope of Paleobotany, types of fossils, its role in global economy and geological time scale.
<b>Core-V: Anatomy of Angiosperms</b>	
CO1	To know basic idea of anatomical anomalies
CO2	To know ecological variations in the primary structure of stems, root,leaves
CO3	To know normal and anomalous secondary growth.
CO4	Understanding the distribution,types and functions of different types of tissues in plants.
<b>Core -VI: Economic Botany</b>	
CO1	To know the different plant products.
CO2	To Understand the economic value and plant parts used for economic uses.
CO3	
CO4	
<b>Core -VII: Genetics</b>	
CO1	To Understand the cellular & subcellular structure & morphology of chromosomes,cell division, pre-Mendelian concept of heredity.
CO2	To.Learn about the Mendelism, interaction of genes, linkage & crossing over, chromosomal aberration, polyploidy
CO3	To know mutations, sex-linked inheritance, determination of sex, cytoplasmic inheritance.
CO4	To Understand the gene concept, muton, recon and cistron; chemistry of nucleus including chromosomes.
<b>Core-VIII: Molecular Biology</b>	
CO1	To Understand the genetic code and its properties; initiation and termination codon.
CO2	To.Learn the gene expression; brief idea of mechanism of transcription and translation.
CO3	To Understand the idea of operon model, Lac operon in prokaryotes and chemical method of gene synthesis.
CO4	
<b>Core-IX:Plant ecology and phytogeography</b>	
CO1	To Know the scope of ecology environment and ecological factors and importance of the discipline.
CO2	To Understand population and community, ecological succession, concept of climax.
CO3	To Understand ecological adaptations in plants.
CO4	To Learn about conservation of biodiversity, energy flow through the ecosystem; cycling of carbon and nitrogen.
CO5	To know different phytogeographical regions.
<b>Core -X:Plant Systematic</b>	
CO1	To know the characters of different Angiosperms families viz. Papaveraceae, Brassicaceae , Malvaceae, Rutaceae, Rosaceae, Leguminosae, Solanaceae, Acanthaceae Apocynaceae, Rubiaceae,Asclepiadaceae, Liliaceae etc....

CO2	To know a brief idea about plant herbarium preparation and storage of extinct plant specimen for long term
CO3	
CO4	
<b>Core-XI: Reproduction Biology</b>	
CO1	To Know of the microsporangium, megasporangium, female gametophyte, male gametophyte, fertilization, endosperm, embryo,
CO2	To know fertilization and seed formation; practical application of experimental embryology.
CO3	To gain a clear idea about sexual reproduction in plants
CO4	To Understand germline transformations.
<b>Core-XII: Plant Physiology</b>	
CO1	To know about mineral nutrition in plants.
CO2	.To' Understand the growth and developmental processes in plants.
CO3	To know about the transpiration and need of stomata and natural openings in plants
CO4	To Understand the process of translocation of solutes in plants
<b>Discipline Specific Elective I: Analytical Techniques and Biostatistics</b>	
CO1	TO know microscopy principles, types and uses.
CO2	To Understand centrifugation, chromatography, mass spectrometry.
CO3	To know numerical approach to plant sciences.
CO4	To Understand mean, median, mode and standard deviations.
<b>Discipline Specific Elective II: Natural Resource Management</b>	
CO1	To know natural resources types and management.
CO2	To Understand energy resources types and conservation.
CO3	To Know the management and conservation of waste.
CO4	
<b>Core-XIII: Plant Metabolism</b>	
CO-1	To Understand the carbon assimilation.
CO-2	To Understand the CAM , Glycolysis path
CO3	To Know the lipid metabolism, Properties of saturated fatty acids, and unsaturated fatty acids.
CO4	To Understand the Beta Oxidation, Gluconeogenesis and its role in mobilization of fatty acids during germination.
<b>Core-XIV: Plant Biotechnology</b>	
CO1	To know aseptic tissue culture technique.
CO2	To Understand the protoplast isolation, culture, regeneration, somatic hybridization.
CO3	To know Recombinant DNA technology process and different vector used.
CO4	To know the Use of biotechnology in different fields.
<b>Discipline Specific Elective III: Horticultural practices and Post harvest</b>	
CO1	To Know about the different types of plants used in in horticulture.
CO2	To Understand Horticulture, ecotourism, rural employment generation.
CO3	To Know different types of post harvest technology.
CO4	To know Principles, methods of preservation and processing of fruits, vegetables, and flowers.
<b>Generic elective I : Biodiversity</b>	
CO1	To Understand the diversity among microorganisms.
CO2	To Understand the knowledge of Algae, diversity, morphogoly , life cycle pattern & economic importance
CO3	To Understand the Biodiversity economic importance of Fungi.
CO4	To Understand different disease, it's cycle, causal agents, symptoms and control measures.
<b>Generic elective: Plant Physiology</b>	
CO1	To understand about mineral nutrition in plants.
CO2	To Understand the growth and developmental processes in plants.
CO3	To know about the transpiration and need of stomata and natural openings in plants
CO4	To Know about the growth hormones in plants and its importance.
<b>AECC-1: Environmental studies</b>	
CO1	To understand the relationship between the human and it's environment
CO2	To implement sustainable policies to tackle environmental problems arises in local , regional , national & global communities
CO3	
CO4	To help students understand responsible environmental policy & practice

## Psychology (UG)

<b>Core-1 (INTRODUCTORY PSYCHOLOGY)</b>	
CO1	Basic understanding of the term psychology.
CO2	To gain knowledge about different methods used in psychology.
CO3	Students will able to know the link between physiology and human behavior.
CO4	Student will understand the different state of mind.
<b>Core-2 (BASIC DEVELOPMENTAL PROCESSES)</b>	
CO1	Student will able to know the nature, types, and principle of development.
CO2	To understand the process of life formation and development of childhood periods.
CO3	Students will able to know about moral, social and cognitive development during adolescent.
CO4	To know the development of personal identity and gender role.
<b>Core-3 (BASIC PSYCHOLOGICAL PROCESSES)</b>	
CO1	To understand the concept of sensation and perception.
CO2	To gain knowledge about different principles of learning and functional attributes of human memory.
CO3	To have basic Ideas regarding structural and functional properties of language and communication .
CO4	Student will able to know the concept of thinking and problem solving.
<b>Core-4 (PROCESSES OF HUMAN EMPOWERMENT)</b>	
CO1	To gain ideas about structural component of intelligence.
CO2	To understand the concept personality and its assessment techniques.
CO3	To have knowledge about emotion and motivation in behavior management.
CO4	Student will able to know the role of positive psychology in the process of human development.
<b>Core-5 (PSYCHOLOGICAL STATISTICS)</b>	
CO1	To understand the application of statistics in psychology.
CO2	To gain knowledge about use of appropriate scale for measuring psychological variables.
CO3	To understand the application of statistical tools.
CO4	To have idea on hypothesis testing by using appropriate statistical technique .
<b>Core-6 (SOCIAL PSYCHOLOGY)</b>	
CO1	To understand the concept and issues of social psychology.
CO2	To have knowledge on significant of attitudes and prejudices in explaining human behavior.
CO3	To have knowledge on group and leadership.
CO4	To have an idea on different types of social behavior.
<b>Core-7 (ENVIRONMENTAL PSYCHOLOGY)</b>	
CO1	To understand the relationship between environment of human behaviour.
CO2	To have an idea about problems of ecology.
CO3	To know different psychological approach and different types of social movement.
CO4	To know about different environmental assessment.
<b>Core-8 (PSYCHOPATHOLOGY)</b>	
CO1	To understand the difference between normality and abnormality.
CO2	To have idea of anxiety and mood disorders.
CO3	To have knowledge on personality disorder.
CO4	To have idea on schizophrenia and different types of therapy.
<b>Core-9 (EDUCATIONAL PSYCHOLOGY)</b>	
CO1	To understand the purposes and uses of educational psychology.
CO2	To have idea on classroom management and motivation.
CO3	To understand the concept of creativity and aptitude.
CO4	To know different students with ability differences and testing procedures used in school.
<b>Core-10 (PSYCHOLOGICAL ASSESSMENT)</b>	
CO1	To understand the concepts of psychological assessment and scaling.
CO2	To know about different psychological test and its construction procedure.
CO3	To have an idea on assessment of ability.
CO4	To know about class-room assessment technique.
<b>Core-11 (ORGANIZATIONAL BEHAVIOR)</b>	
CO1	To understand the different perspectives of organizational behavior.
CO2	To understand the processes of group decision making and organizational system.
CO3	To make students understand the theories of work motivation and related issues of power and politics.
CO4	To know the HRD & evaluation.



<b>Core-12 (HEALTH PSYCHOLOGY)</b>	
CO1	To have idea on health psychology and role of stress.
CO2	To analyze various theories of health and illness.
CO3	Student will able to know different coping strategies.
CO4	To acquaint the students with different health issues.
<b>Core-13 (COUNSELING PSYCHOLOGY)</b>	
CO1	Student will able to know about the purpose of counseling.
CO2	To have knowledge on various theories of counseling.
CO3	To understand different counseling programs used for counseling student.
CO4	To know the application of counseling in different fields.
<b>Core-14(POSITIVE PSYCHOLOGY)</b>	
CO1	Student will able to know the rationale behind positive psychology.
CO2	Student will acquire knowledge on flow and happiness.
CO3	Student will able to gather knowledge of different precursors to positive psychology.
CO4	Student will understand strength based approach to mental health issues.
<b>DSC-1 (PSYCHOLOGICAL RESEARCH AND MEASUREMENT)</b>	
CO-1	To have basic Ideas about Psychological research and sampling methods.
CO-2	Student will able to know psychological scaling and test construction
CO3	The study of experimental design and standardization of tests.
CO4	The knowledge of interview and personality assessment.
<b>DSC-2 (PSYCHOLOGY AND SOCIAL ISSUES)</b>	
CO1	Student will able to comprehend the knowledge of social system and poverty.
CO2	To know the role of health and wellbeing.
CO3	Students are able to know about anti social activities.
CO4	To know about social integration and violence.
<b>DSC-3 ( PSYCHOLOGY OF DISABILITY)</b>	
CO1	To know about the types and prevalence of disability.
CO2	To know about the theories of disability.
CO3	To understand about disability policies and care systems.
CO4	To understand about intervention and rehabilitation of disables
<b>DSC-4 (PSYCHOLOGY OF CRIME)</b>	
CO1	To understand about criminal behavior and types of crime
CO2	It will give in-depth ideas on theory of criminal behavior
CO3	It will be helpful to have knowledge on various models of crime control
CO4	To gather knowledge on mental health of the victims of crimes
<b>DSC-4 (RESEARCH PROJECT)</b>	
CO1	To help students to know about research design in psychology
CO2	To guide students to understand research in their field of interest
CO3	To help students understand hypothesis testing and application of statistical analysis
CO4	To help students to learn methods of report writing
<b>GE-I (INTRODUCTORY PSYCHOLOGY)</b>	
CO1	Basic understanding of the psychology of human behavior
CO2	To understand different methods used in psychology
CO3	Students will able to know the link between physiology and human behavior
CO4	Student will able to know the different state of mind
<b>GE-II (BASIC DEVELOPMENTAL PROCESSES)</b>	
CO1	Student will able to know the nature, types, and principle of development
CO2	To understand the process of life formation and development of childhood periods
CO3	Students will able to know about moral, social and cognitive development during adolescent
CO4	To know the development of personal identity and gender role

## Sociology (UG)

<b>Core-1(Introduction to Sociology 1)</b>	
CO1	Understanding the historical context and importance of Sociology
CO2	To understand the relationship of sociology with other social sciences
CO3	To understand the basic concepts in Sociology
CO4	Demonstrate how societal and structural factors influence individual behaviour
<b>Core-2(Introduction to Sociology-II)</b>	
CO1	Understanding the relationship between individual, society and culture
CO2	To understand the process of socialization and undertake its practical implementation
CO3	To gain insight the ways in which society exercises its control over individuals
CO4	To understand the various social processes in society
<b>Core-3(Indian Society)</b>	
CO1	To understand and analyse the key concepts of Hinduism, Jainism, Buddhism, Islam and impact of these religions on society
CO2	To gain insight into the bases of Hindu Social Organization
CO3	To have basic ideas of the social institution of marriage and family in India
CO4	To gain a brief idea regarding the caste system in India
<b>Core-4(Sociology of Environment)</b>	
CO1	To derive knowledge about the close relationship between society and environment
CO2	Gain in depth idea about the various social movements surrounding environmental protection
CO3	To gain an idea regarding the various environmental issues and their repercussions on mankind
CO4	Gain awareness about the various global and nations efforts to conserve the environment
<b>Core-5(Classical Sociological Thinkers)</b>	
CO1	Understanding grand foundational themes of sociology
CO2	Appreciation of the classical concepts and theories to develop an awareness of the limits of current knowledge
CO3	Understanding the basic methodological approaches of the thinkers, through some original text and their role in building sociological knowledge
CO4	Understanding the important contributions made by the founding fathers of Sociology
<b>Core-6(Social Change and Development)</b>	
CO1	To gain a brief knowledge regarding the concept of Social Change
CO2	To understand the theories of social change
CO3	To have knowledge about the various models of development
CO4	To understand the various processes of social change in Indian context
<b>Core-7(Sociology of Gender)</b>	
CO1	Understanding the social construction of gender and conceptualizing the concepts of gender and sex
CO2	To gain a brief idea regarding feminism and patriarchy
CO3	To understand the role of gender in the process of development
CO4	To get a brief idea about the status of women through ages in India
<b>Core-8(Rural Sociology)</b>	
CO1	Understanding the basics of Rural Sociology
CO2	Understanding the Indian rural social structure
CO3	To have a brief idea about the several rural social problems
CO4	To gain awareness about the various rural development programmes
<b>Core-9(Globalization and Society)</b>	
CO1	To understand the technical process of globalization and its associated concepts

CO2	To have idea about the several dimensions of Globalization
CO3	To acquaint the students with the consequences of Globalization
CO4	To create awareness about the impact of globalization in Indian context
<b>Core-10(Marriage, Family and Kinship)</b>	
CO1	To have basic idea about the institution of marriage
	To acquaint the students with the concept of family
CO3	To have idea about kinship system
CO4	To gain idea about the several contemporary issues revolving around marriage and family
<b>Core-11(Research Methodology)</b>	
CO1	To introduce the students to scientific sociological research both from theoretical and methodological perspective
CO2	To understand the concept and importance of hypothesis and sampling in social research
CO3	To gain a brief knowledge about the various tools and techniques of data collection social research
CO4	To have an idea on report writing and data analysis
<b>Core-12(Social Movements in India)</b>	
CO1	To introduce the students to the concept of social movements
CO2	To analyze the various peasant movements in India
CO3	To gain insight about the several backward caste and tribal movements in India
CO4	To acquaint the students with the various Women's movements in India
<b>Core-13(Population and Society)</b>	
CO1	To understand the interrelationship between society and population
CO2	To have knowledge on various theories of population
CO3	To gain insight about the various determinants of population growth
CO4	To have an idea about the population composition in India
<b>Core-14(Social Disorganization and Deviance)</b>	
CO1	Understand the meaning, causes and consequences of social disorganization
CO2	Learn about the theories explaining deviant behaviour
CO3	Gain an understanding about the concept of crime, juvenile delinquency and theories of punishment
CO4	Understand the various dominant social problems
<b>DSE-1Sociology of Health</b>	
CO-1	Gain knowledge basics of Sociology of Health
CO-2	Understand the theoretical perspectives of health
CO3	To make the students aware about the major health programs in India
CO4	To gain insight about the health sector reforms introduced by Government of India
<b>DSC-2Sociology of Education</b>	
CO1	Student will be able to comprehend the basics of Sociology of Education and its importance
CO2	To gather knowledge about the theoretical perspectives on Sociology of Education
CO3	Get familiar with the interrelationship between education and social processes
CO4	To know the various educational programs, policies and issues in India
<b>DSC-3Urban Sociology</b>	
CO1	To know the basics of urban sociology and specific traits of urban community
CO2	To understand the theories of patterns of city growth
CO3	Learn about the major urban social problems
CO4	To make the students aware about the Urban development programs in India
<b>DSC-4Field Work and Dissertation</b>	

CO1	To provide exposure to the students to real life situations
CO2	To equip them with the capacity to apply their theoretical knowledge to practical grounds
CO3	To enable the students to acquire the right type of data and put them into proper documentation format
CO4	To help the students gain analytical skills
<b>DSC-4 Research Project</b>	
CO1	To connect Economics in textbook and Classroom
CO2	To expose the student to real world
CO3	to develop a questionnaire
CO4	to develop analytical skill
<b>GE-II Introduction to Sociology I</b>	
CO1	To study the basics of sociology and its relationship with other social sciences
CO2	To gain understanding about the basic concepts in sociology
CO3	Understanding the system of social stratification and social control
CO4	To know about the process of socialization and social control
<b>GE-III Introduction to Sociology II</b>	
CO1	To know about the composition of Indian Society and its theoretical basis
CO2	To understand the historical moorings and bases of Hindu Social Organization
CO3	Understand the institution of marriage and family in India
CO4	To be acquainted with the caste system in India

## Statistics (UG)

<b>Core-1 ( Descriptive Statistics)</b>	
CO1	Understanding the basic concept of graphical and tabular representation of data
CO2	To compute various measures of central tendency, dispersion, Skewness and kurtosis
CO3	To find the correlation and regression between two or more variables
CO4	To get some idea about index numbers
<b>Core-2 ( Algebra)</b>	
CO1	To know about the theory of equation
CO2	To understand the use of set theory and function
CO3	To know about the characteristics root and vector
CO4	To know the use of matrix and determinants.
<b>Core-3 (Probability and Probability Distributions)</b>	
CO1	To use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events
CO2	To obtain a probability distribution of random variable (one or two dimensional) in the given situation
CO3	To know about mathematical expectations and generating functions
CO4	To apply standard discrete probability distribution to different situations
<b>Core-4 (Calculus)</b>	
CO1	Use of calculus in statistics for solving differential equations
CO2	Review of integration and definite integral
CO3	To have an idea about exact differential equations of 1 <sup>st</sup> order and 1 <sup>st</sup> degree
CO4	Formation and solution of partial differential equation
<b>Core-5 (Sampling Distribution)</b>	
CO1	To understand the concept of sampling distributions and their applications in statistical inference.
CO2	To understand the process of hypothesis testing and its significance
CO3	Importance of Standard Error and to draw conclusions using p-value
CO4	Idea about exact sampling distributions using chi-square, t and F.
<b>Core-6 (Survey Sampling and Indian Official Statistics)</b>	
CO1	To know the basic concepts of survey sampling and principles involved in it.
CO2	To know the techniques of stratified random sampling and systematic random sampling
CO3	To know the basic idea about Ratio and Regression methods of estimation
CO4	To know the functions of NSSO, CSO, MOSPI & National Statistical Commission
<b>Core-7 ( Mathematical Analysis)</b>	
CO1	To have the knowledge of basic properties of the field of real numbers
CO2	To have an idea on real functions-limits of functions and their properties,
CO3	To know the Newton's Divided difference interpolation formula and Lagrange's interpolation formula
CO4	To calculate the Numerical Quadrature using the interpolation formula
<b>Core-8 (Statistical Inference)</b>	
CO1	To know the basic idea about estimation and criterion of good estimator.
CO2	Basic idea about methods of estimation
CO3	To have knowledge about testing of hypothesis
CO4	To have an idea on Sequential Analysis
<b>Core-9 (Linear Model)</b>	
CO1	Basic concept of linear model based on Gauss Markov Theorem and its use
CO2	To have an idea on simple and multiple regression models
CO3	To understand the concept of Analysis of Variance and Covariance.
CO4	To know about model checking.
<b>Core-10 (Statistical Quality Control)</b>	
CO1	To have a basic idea about Quality Standard (ISO), Statistical process control
CO2	To acquaint the students on control chart for variables
CO3	To have an idea about principles of acceptance sampling plan
CO4	To know about six sigma procedure
<b>Core-11 (Stochastic Process and Queuing Theory)</b>	
CO1	To have basic ideas on probability distribution and stochastic process
CO2	To understand the concept of Markov Chain
CO3	To have basic knowledge on Poisson Process
CO4	To know the concept of Queuing Theory
<b>Core-12 (Statistical Computing Using C and R Programming)</b>	
CO1	To have an idea on basics of C programming

CO2	To understand decision making and branching
CO3	Student will able to know multi function programme using user defined functions
CO4	To have knowledge about R Programming
<b>Core-13 (Design of Experiments)</b>	
CO1	Student will able to know the fundamental concepts of design of experiments.
CO2	To have knowledge about basic designs (CRD, RBD & LSD)
CO3	To know about the factorial experiment
CO4	To get an idea about total and partial confounding
<b>Core-14 (Multivariate Analysis and Non-Parametric Methods)</b>	
CO1	To have an idea on Bivariate Normal Distribution
CO2	To have an idea on Multi Variate Normal Distribution
CO3	Student will able to know the basic concept of Non-parametric test (one sample test)
CO4	Student will know the different test associated in Non-parametric test (Two sample test)
<b>DSC-1 (Operations Research)</b>	
CO-1	To have basic Ideas about History of Operations Research
CO-2	Student will able to know about transportation problem
CO3	To get an idea about game theory
CO4	Students are able to know about inventory management
<b>DSC-2 (Time Series Analysis)</b>	
CO1	To introduce time series and its applications
CO2	To calculate different methods for measuring trend values
CO3	To measure seasonal component using different methods
CO4	TO know about stationary time series
<b>DSC-3 (Demography &amp; vital Statistics)</b>	
CO1	To know about population theories and composition
CO2	To introduce various sources for collecting vital statistics
CO3	To have a knowledge about stationary and stable population
CO4	To study life table
<b>DSC-4 (Econometrics)</b>	
CO1	To introduce different econometrics models
CO2	To study multicollinearity and its solution
CO3	It will be helpful to have knowledge on generalised least square estimation
CO4	To gather knowledge about hetero-scedastic disturbances
<b>DSC-4 (Research Project)</b>	
CO1	To develop analytical skill
CO2	To expose the students to the real life situations using theoretical concepts
CO3	To develop knowledge about data collection, analysis and its interpretation
CO4	To initiate students to write and present a statistical report

# CHEMISTRY(UG)

paper 1	
CO1	To know about the structure of atom, de-Broglies equation etc.
CO2	To know about modern periodic law, different blocks of elements etc.
CO3	To know about different types of chemical bonding, polarization, hybridization etc.
CO4	To know about redox reactions, metallic bonding etc.
Paper -2	
CO1	To know about gaseous state, kinetic molecular theory, law of corresponding states etc.
CO2	To know about liquid state, it's structure, classes etc.
CO3	To know about solid state of matter, Bragg's law etc.
CO4	To Know about hydrolysis of salt, hydrolysis constant, buffer solution, common ion effect etc.
Paper-5	
CO1	To know about S&P block elements. Inert pair effect, anomalous behaviour etc.
CO2	To study about S&P block elements 2and their properties.
CO3	To know about Inert gases, clathrates, structure of Inert gas compounds.
CO4	To know about inorganic polymers
Paper-6	
CO1	To know about haloalkanes and haloarenes,organometallic compound and synthetic applications
CO2	To Study about alcohols, phenols, ethers, preparations, properties
CO3	To study about preparations and properties of aldehydes and ketones, Reactions and mechanism.
CO4	To Study carboxylic acids, their derivatives preparation, properties.
Paper7	
CO1	To study about Gibbs phase rule, phase diagrams of one components and two components system
CO2	To study about three components
CO3	To Study about chemical kinetics
CO4	To study about catalysis and derivation of mathematical equation.
Paper 11	
CO1	To study about co-ordination compounds
CO2	To study about transition elements 1
CO3	To Study about transition elements2&3
CO4	To study about bio inorganic chemistry
Paper12	
CO1	To study about quantum chemistry
CO2	To study about chemical bonding
CO3	To study about molecular spectroscopy 1
CO4	To study about molecular spectroscopy 2&photochemistry
Paper-13	
CO1	To study about u.v.spectroscopy
CO2	To study about I.r.spectroscopy
CO3	To study about nmr spectroscopy
CO4	To study about mass spectroscopy and carbohydrates
Paper14	
CO1	To study about classification of polymers
CO2	To study kinetics and mechanism of polymer reactions
CO3	To study about glass transition temperature
CO4	To study about commercial polymers

## Course Outcomes of Education (UG)

<b>Core-1(Educational philosophy )</b>	
CO1	Understanding the meaning and concepts of education.
CO2	To understand philosophy as the foundation of education.
CO3	To analyse aims of education.
CO4	To compare and contrast Indian and western philosophies of education .
<b>Core-2( Educational psychology)</b>	
CO1	Student will be able to explain the concept of educational psychology.
CO2	To understand different methods of educational psychology.
CO3	To understand concept of growth and development of child and adolescence.
CO4	To identify the learning needs during the different stages of development.
<b>Core-3(Educational sociology)</b>	
CO1	To understand the relationship between education and society.
CO2	To understand the meaning of educational sociology and function of education.
CO3	To have basic Ideas of different agencies of education and their functions.
CO4	Student will describe the role of education in Modernization and Globalisation.
<b>Core-4(Changing pedagogical perspective)</b>	
CO1	To understand the concept of Pedagogy.
CO2	To differentiate pedagogy from other allied concepts.
CO3	To list out different approaches and methods of teaching.
CO4	Student will able to prepare lesson plans following different methods.
<b>Core-5(Educational Assessment and Evaluation)</b>	
CO1	To analyze the nature , purpose and types of educational assessment and evaluation.
CO2	To develop and use different types of tools and techniques for CCE of learning.
CO3	To understand the importance of assessment for learning and it's process for enhancing the quality of learning and teaching.
CO4	To describe the characteristics of a good test.
<b>Core-6(Educational Research)</b>	
CO1	To understand nature,scope and limitation of educational research.
CO2	To understand different types and methods of educational research.
CO3	Students will describe the process of research in education.
CO4	Students will prepare research report.
<b>Core-7(Statistical Methods for Economic)</b>	
CO1	To have basic knowledgand understanding of the importance of statistics in education
CO2	To have idea oncollection and interpretation of data.
CO3	To compute ane use various statistical measures.
CO4	To understand concept and importance of normal probability curve.
<b>Core-8 (History of Education in India)</b>	
CO1	To understand the development of education in India during different periods .
CO2	To describe the development of India during post- independence period
CO3	To describe major recommendations of education in India in ancient, mediaeval periods.
CO4	To describe major recommendations of different policies and committee reports on Education in India.
<b>Core-9( Curriculum Development)</b>	
CO1	To analyse bases and sources of curriculum.
CO2	To describe different types of curriculum.
CO3	To Critically examine National curriculum framework -2000 and 2005.
CO4	To describe the process of curriculum development and differentiate different models of curriculum development.
<b>Core-10(Guidance and counseling)</b>	
CO1	To state concept,need, principles and bases of guidance.
CO2	To understand the use of various tools and techniques of guidance in appropriate contexts.
CO3	To state concept,scope and types of counselling.
CO4	To narrate the process,tools and techniques of counselling.
<b>Core-11(Development of education in Odisha)</b>	
CO1	To have basic ideasabout the structure of educational system of Odisha.
CO2	To state the function of institutions at the state and district level.
CO3	To understand different schemes of central as well as state government being implemented in the state of odisha
CO4	To analyse the scenario of higher and technical education of Odisha.



<b>Core-12(Information and communication Technology in Education)</b>	
CO1	To explain the concept, nature and scope of ICT in education.
CO2	To explore ICT resources for Teaching and learning.
CO3	To describe the importance of free and open source software in education.
CO4	To develop the ability to use various tools and explore tools and techniques of ICT for evaluation.
<b>Core-13(Contemporary Trends and Issues in Indian Education)</b>	
CO1	To understand the importance of pre-school and elementary school education.
CO2	To analyse various problems and issues for ensuring quality education.
CO3	To enumerate the importance of higher education and analyse various problems and issues for ensuring quality in higher education.
CO4	To analyse emerging concerns in Indian education.
<b>Core-14(Educational management and Leadership)</b>	
CO1	To describe the concept,types and importance of educational management and concepts ,theories and styles of leadership in educational management.
CO2	To spell out the structure of educational management at different levels -from national to institutional level.
CO3	To describe different aspects and importance of educational management.
CO4	To analyse the concepts, principles and structure of total quality management approach in education
<b>DSE-1 ( Pedagogy of language (English))</b>	
CO-1	To analyse the issues relating to place of English in school curriculum.
CO-2	To use Various methods, approaches and strategies of teaching learning English and transact various types of lesson plans covering all aspect of English language.
CO3	To develop test items to assess learning in English and provide feedback as well as prepare enrichment materials..
CO4	To plan appropriate pedagogical treatment of the prescribed contents for effective classroom transaction.
<b>DSC-2 (pedagogy of social science)</b>	
CO1	To state the meaning, scope and importance of social science.
CO2	To specify the skills and competencies to formulate specific learning objectives for different history and political science lesson.
CO3	To identify the different methods and skills of teaching history and political science for translating the contents effectively.
CO4	TO prepare unt plan and lesson plan in history and political science.
<b>DSC-3(policies and practices in higher education in India)</b>	
CO1	To analyse various policies on education for higher education in India.
CO2	To evaluate progress of higher education.
CO3	To examine the problems in implementation of the policies on higher education.
CO4	To analyse role of various agencies of higher education in India.
<b>DSC-4 (inclusive education)</b>	
CO1	To define meaning,scope of inclusive education
CO2	To identify the assumption of disability underlying current general and special education practices.
CO3	To understand various suggestions given by different recent commissions on education of children with disabilities.
CO4	To explain meaning of universal design in learning (UDL) for classroom pedagogy and to examine the different support services and collaboration for inclusive education.
<b>DSC-4 Dissertation/ Research Project</b>	
CO1	To prepare a research project on any Educational issue or problem
CO2	To expose the student to real world
CO3	to develop a dissertation.
CO4	to developanalytical skill
<b>GE-I Educational philosophy</b>	
CO1	To state and analyse the meaning of education.
CO2	To explain the philosophy as the foundation of education and analyse aims of education.
CO3	To describe the essence of different formal philosophies and draw educational implications.
CO4	To compare and contrast Indian and Western philosophies of education.
<b>GE-II Educational psychology</b>	
CO1	To explain the concept of educational psychology.
CO2	To understand different methods and explain the concepts of growth and development of child and adolescence.
CO3	To explain the theory of cognitive development and to understand characteristics of individual differences,the ways of meeting the classroom issues arising out of the differences.
CO4	To identify the learning needs during different stages of development and adopt appropriate strategies in and out of school to meet the learning needs.

## BSc.I.T.M (UG)

### Semester-1

Sl.No.	Subject Name	Course Outcome
1	Digital Logic	<ul style="list-style-type: none"><li>Formulate, apply formal proof techniques and solve the problems with logical reasoning.</li><li>Analyze and evaluate the combinatorial problems by using probability theory.</li><li>Apply the concepts of graph theory to devise mathematical models.</li><li>Analyze types of relations and functions to provide solution to computational problems.</li><li>Identify techniques of number theory and its application.</li></ul>
2	'C' Programming	<ul style="list-style-type: none"><li>Acquire the knowledge of fundamentals, concepts and constructs of C programming.</li><li>Apply C programming skills to develop programs using user defined data types.</li><li>Apply C programming skills to solve real world problems.</li></ul>
3	Discrete Mathematics	<ul style="list-style-type: none"><li>Formulate, apply formal proof techniques and solve the problems with logical reasoning.</li><li>Analyze and evaluate the combinatorial problems by using probability theory.</li><li>Apply the concepts of graph theory to devise mathematical models.</li><li>Analyze types of relations and functions to provide solution to computational problems.</li></ul>

### Semester-2

Sl.No	Subject Name	Course Outcome
1	Computer Organization	<ul style="list-style-type: none"><li>Perform basic binary arithmetic &amp; simplify logic expressions.</li><li>Comprehend the operations of basic memory cell types and Implement sequential logic functions using ICs.</li><li>Elucidate the functions &amp; organization of various blocks of CPU.</li></ul>
2	Data Structures	<ul style="list-style-type: none"><li>Perform basic analysis of algorithms with respect to time and space complexity.</li><li>Select appropriate searching and/or sorting techniques in the application development.</li><li>Apply implement learned algorithm design techniques and data structures to solve problems.</li></ul>
3	Numerical Techniques	<ul style="list-style-type: none"><li>Able to understand the various techniques in differentiation</li><li>To Acquire skills in analyzing and solving the Integral problems</li><li>Able to solve the problems based on multiple integration</li></ul>

### Semester-3

Sl.No	Subject Name	Course Outcome
1	C++ programme	<ul style="list-style-type: none"><li>Solve problems by using modular programming concepts.</li><li>Understand and implement control and logic structures in C++ modular programming.</li><li>Abstract data and entities from the problem domain, build object models and design software solutions using best practices in object-oriented principles and strategies in C++.</li></ul>
2	Database System	<ul style="list-style-type: none"><li>Install and configure database systems.</li><li>Analyze database models &amp; entity relationship models.</li><li>Design and implement a database schema for a given problem-domain</li><li>Populate and query a database using SQL DDL / DML / DCL commands</li></ul>
3	Principles of Management	
4	PYTHON	

### Semester -4

Sl.No	Subject Name	Course Outcome
1	JAVA	<ul style="list-style-type: none"><li>Solve problems by using modular programming concepts.</li><li>Understand and implement control and logic structures in modular programming.</li><li>Develop, discover, explore and apply tools that appropriately utilize key object-oriented programming concepts.</li><li>Design and implement the various concepts of Exception Handling and File I/O.</li></ul>
2	Operating System	<ul style="list-style-type: none"><li>Explain the role of Modern Operating Systems.</li><li>Apply the concepts of process and thread scheduling.</li><li>Illustrate the concept of process synchronization, mutual exclusion and the deadlock.</li><li>Implement the concepts of various memory management techniques.</li><li>Make use of concept of I/O management and File system.</li></ul>
3	Android	<ul style="list-style-type: none"><li>Install and configure Android Studio.</li><li>Explain and use key Android programming concepts</li><li>Deploy the application on Google Play.</li></ul>

### Semester-5

Sl.No	Subject Name	Course Outcome
1	Web Technology	<ul style="list-style-type: none"> <li>• Develop Static and Dynamic website using technologies like HTML, CSS.</li> <li>• Demonstrate the use of web scripting languages</li> <li>• Develop web application with Front End Technologies.</li> <li>• Develop web application with Back End Technologies.</li> </ul>
2	Software Engineering	<ul style="list-style-type: none"> <li>• Classify various software application domains.</li> <li>• Analyze software requirements by using various modeling techniques.</li> <li>• Translate the requirement models into design models.</li> <li>• Use quality attributes and testing principles in software development life cycle.</li> </ul>
3	Data Science	<ul style="list-style-type: none"> <li>• Understand Big Data primitives</li> <li>• Demonstrate Big Data processing skills by developing applications.</li> <li>• Analyze and apply each learning model comes from a different algorithmic approach and it will perform differently under different datasets.</li> <li>• Understand different programming platforms for big data analytics.</li> </ul>

### Semester-6

Sl.No	Subject Name	Course Outcome
1	Computer Networks	<ul style="list-style-type: none"> <li>• Understand the different access techniques, channelization and IEEE standards.</li> <li>• Understand the concepts of IPv4 and IPv6.</li> <li>• Understand the services and protocols used at transport layer.</li> </ul>
2	Project	<ul style="list-style-type: none"> <li>• Design solution to real life problems and analyze its concerns through shared cognition.</li> <li>• Live Website Hosting.</li> </ul>

### **BBA(UG):**

Sl.NO.	Semester	Course Name	Learning Outcome
1	1	Financial Accounting	Show proficiency in basic accounting concepts, conventions and understanding of the accounting process. Understand the process and preparation of financial statements for Sole Proprietorship. To explain the structure and content of financial statements.
2		Quantitative Techniques	At the end of the course module, the students should be able to: 1) Appreciate the significance and the value of the application of the principles of Quantitative Techniques in the use of scientific methodology of management. 2) To understand the various issues involved in the collection, analysis and arriving at conclusive decisions regarding quantitative data. Describe the Mean, Median, Mode. Write down the methods of depression, Quartile deviation. Describe the types of Correlation Rank, Correlation, Co-efficient Correlation. Describe the construction of Index numbers.
3	2	Principles of Business Management	Recognize the role of a manager and how it relates to the organization mission. Demonstrate the roles, skills and function of management. Recognize the concept of social responsiveness and its benefits. Define management, its four basic function and skills.
4		ECONOMICS	To get overall knowledge about definition given by the various economist. Get an introduction to supply and demand and the basic forces that determine equilibrium in a market. Understand the fundamentals of Micro and Macro economics. To get information about the problems facing by the Indian Economy.
5		COST ACCOUNTING	Describe the concept of cost, disadvantage. Identify the difference between costing accounting and financial accounting. Identify the allocation & absorption of overheads. Describe the application of marginal costing. Classify the different types of overheads. Identify the preparation of cost sheet.
6	3	BUSINESS LAW	Describe the law and commercial law rules and regulation. • Identify the contract and its classification of contract. • Write down the essential of a valid contract. • Describe the capacity of parties and incapacity of parties in contract. • Write down the sale of good act. • Identify the transfer of property. • Identify the agent, and its types of agent, duties right of an agent. • Describe the companies act and type of company, characteristic of company. • Classify the difference between condition and warranty. • Identify the unpaid seller and its rights of unpaid seller.
7		BANKING & INSURANCE	To provide an understanding of the Indian Banking & Insurance Sector. To make the students comprehend, the latest offerings and the day to day operations in Banking & Insurance.
8		BUSINESS COMMUNICATION	Describe the knowledge of Basic English Grammar and Tenses. Write down the Construction of Paragraph and Essay writing. Classify the Business Letters. Describe the Essential of and offer effective business letter. Identify the Job Application Letter. Write down the Bio-data.
9	4	HRM	To Develop the skill for better human relation in this organization To make the student familiarize with why HRM matters more now than ever. To make the students aware about HR Planing, HR Structure To familiarize the student with modern training and development programs
10		ORAGANIZATION BEHAVIOUR	Identify the study of Human Behaviour in organization. Describe the personality and its determinate of personality. Write down the decision marketing and its classified into individual, group, division making. Identify the communication and its classification, barriers to effective communication. Describe the leadership and its quality of lenders, behaviours of lender, classification of lender. Identify the conflict and its type of conflict. Classify the stress and managing stress. Identify the organization change and steps in managing change.
11		PRODUCTION & OPERATION MGT.	Understanding of the practical applications of the subject. Development of analytical thought process to help develop modeling.
12		ENV.STUDIES	Describe Business Environment analysis and diagnosis give businessmen time to anticipate opportunities. Describe the process environment analysis. Write down points to be business environment analysis helps to forecast the future prospects of the business concern. Write down points to be characteristics of today's business. Describe the government responsibilities to business.
1	5	FINCIAL	To provide the student with complete understanding of Indian financial

		INSTITUTION & MKT	markets, institutions and intermediaries. The aim of the course shall be to equip the student with understanding of different financial instruments and their application in real life scenarios.
14		MARKETING MGT	Introducing students with the concept of MarketingIntroduction to 7 P's of marketing.Introducing the concept of consumer behavior and its importanceUnderstanding the concept of Product Life Cycle.Understanding the modern concept of marketing
15		FINANCIAL MGT	Describe the concept of financial management and its function . Identify the principles of capital structure. Identify the source of finance∞ Describe the working capital management and its techniques of forecasting in working capital. Describe the concept of cost of capital and its classifications. Identify the determination of cost of capital. Write down the characteristics of budgetary control. Identify the preparation of production, sales, cash budget, flexible budget. Describe the different factors affecting in capital investment proposal. Classify the capital budgeting appraisal methods.
16	6	ENTREPRENEURSHIP & BUSINESS MGT	The students will be able to design successful Business Plan in order to set up a venture in future. The students will become more capable in selfemployment.
17		SALES & DISTRIBUTION MGT	Introducing students with the concept of sales and distribution management.Making students familiar with the concept and importance of salesmanshipDeveloping personal selling skills in studentsUnderstanding forecasting and its applications in sales and distribution.Understanding the concept and need of distribution management
18		RESEARCH METHODOLOGY	Students will be able to convert business problems into research problem and design research accordingly. Students will be able to identify correct statistical tools to solve problem in hand. Students will write short research report.

## BCA (UG)::

Sr. No	Name of the course	Course Code	Course Objectives / Outcome
BCA Semester 1 <sup>ST</sup> /2 <sup>ND</sup> /3 <sup>RD</sup> /4 <sup>TH</sup> /5 <sup>TH</sup> /6 <sup>TH</sup>			
1	Digital Logic	CORE-1	<ul style="list-style-type: none"> <li>· To acquire the basic knowledge of digital logic levels and application of knowledge to understand digital electronics circuits.</li> <li>· To prepare students to perform the analysis and design of various digital electronic circuits.</li> <li>· Have a thorough understanding of the fundamental concepts and techniques used in digital electronics.</li> <li>· To understand and examine the structure of various number systems and its application in digital design.</li> <li>· The ability to understand, analyze and design various combination and sequential circuits.</li> <li>· Ability to identify basic requirements for a design application and propose a cost-effective solution.</li> <li>· The ability to identify and prevent various hazards and timing problems in a digital design.</li> <li>· To develop skill to build, and troubleshoot digital circuits.</li> </ul>
2	C Programming	CORE-2	<ul style="list-style-type: none"> <li>· To learn advance structured and procedural programming and to improve C programming skills.</li> <li>· To understand the basic structure of a C program.</li> <li>· To gain knowledge of various programming errors.</li> <li>· To enable the students to make flowchart and design an algorithm for a given problem.</li> <li>· To enable the students to develop logics and programs.</li> <li>· Ability to design and develop Computer programs, analyzes, and interprets the concept of pointers, declarations, initialization, operations on pointers and their usage.</li> <li>· Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures.</li> <li>· Student must be able to define union and enumeration user defined data types.</li> <li>· Develop confidence for self-education and ability for life-long learning needed for Computer language.</li> <li>· Understanding a functional hierarchical code organization.</li> </ul>
3	Numerical Method-I	CORE-14	<ul style="list-style-type: none"> <li>· To learn how to perform error analysis for arithmetic operations.</li> <li>· To demonstrate working of various numerical methods.</li> <li>· To provide a basic understanding of the derivation and use of methods of interpolation and numerical integration.</li> <li>· To impart knowledge of various statistical techniques.</li> <li>· To develop students' understanding through laboratory activities to solve problems related to above stated concepts.</li> <li>· Skill to choose and apply appropriate numerical methods to obtain approximate solutions to difficult mathematical problems.</li> <li>· Ability to apply various statistical techniques such as Measures of Central Tendency and Dispersion.</li> <li>· Understanding of relationship between variables using the method of Correlation and Trend Fit Analysis.</li> <li>· Skill to execute programs of various Numerical Methods and Statistical Techniques for solving mathematical problems.</li> </ul>
4	Discrete Mathematics	CORE-7	<ul style="list-style-type: none"> <li>· To understand and solve discrete mathematical problems.</li> <li>· To impart knowledge regarding relevant topics such as set Theory, basic logic, graphs, trees or discrete probability.</li> <li>· To familiarize students with linear Algebra, differential and integral calculus, numerical methods and statistics.</li> <li>· Develops formal reasoning.</li> <li>· Creates habit of raising questions.</li> <li>· Knowledge regarding the use of Discrete Mathematics in Computer Science.</li> <li>· Helpful in formulating questions.</li> <li>· Ability to communicate knowledge, capabilities and skills related to the computer engineer profession.</li> </ul>
5	Communication Skills	AECC-2	<ul style="list-style-type: none"> <li>· To study the personality development of individuals in the micro perspective.</li> <li>· To provide employability skills.</li> </ul>

			<ul style="list-style-type: none"> <li>To provide the skills of comprehension writing.</li> <li>To develop Formal correspondence writing skills.</li> <li>To learn the language skills grammatically.</li> <li>To understand the need, benefits and forms of communication.</li> <li>Use English language accurately and effectively in real life situations.</li> <li>Mastering the art of Formal correspondence writing.</li> <li>To actively participate in oral and written communication in practical applications.</li> <li>Understand the language and its use grammatically and proficiently.</li> </ul>
6	Operating System	CORE-6	<ul style="list-style-type: none"> <li>To deliver a detailed knowledge of integral software in a computer system – Operating System.</li> <li>To understand the working of operating system as a resource manager.</li> <li>To familiarize the students with Process and Memory management.</li> <li>To describe the problem of process synchronization and its solution.</li> <li>Ability to apply CPU scheduling algorithms to manage tasks.</li> <li>Initiation into the process of applying memory management methods and allocation policies.</li> <li>Knowledge of methods of prevention and recovery from a system deadlock.</li> </ul>
7	Data Structure	CORE-4	<ul style="list-style-type: none"> <li>To introduce the fundamental concept of data structures and to emphasize the importance of data structures in developing and implementing efficient algorithms.</li> <li>To familiar with basic techniques of algorithm analysis.</li> <li>To familiar with writing recursive methods.</li> <li>To master the implementation of linked data structures such as linked lists and binary trees.</li> <li>To familiar with several sub-quadratic sorting algorithms including Selection sort, Insertion sort etc.</li> <li>To master analyzing problems and writing program solutions to problems using the above techniques.</li> <li>Describe how arrays, records, linked structures, stacks, queues, and trees are represented in memory and used by algorithms.</li> <li>Describe common applications for arrays, records, linked structures, stacks, queues and trees.</li> <li>Write programs that use arrays, records, linked structures, stacks, queues, trees, and graphs</li> <li>Demonstrate different methods for traversing trees.</li> <li>Compare alternative implementations of data structures with respect to performance.</li> <li>Describe the concept of recursion, give examples of its use, describe how it can be implemented using a stack.</li> <li>Discuss the computational efficiency of the principal algorithms for sorting and searching.</li> </ul>
8	Object Oriented Programming with C++	CORE-3	<ul style="list-style-type: none"> <li>To give an overview of benefits of Object-Oriented Programming (OOP) approach over the Traditional Programming approach.</li> <li>To deliver comprehensive view of OOP concept.</li> <li>To impart detailed knowledge of a powerful object-oriented programming language – C++.</li> <li>Familiarization with a widely used programming concept – Object Oriented Programming.</li> <li>Develop logical thinking.</li> <li>Skill to write codes in C++ by applying concept of OOP, such as Objects, Classes, Constructors, Inheritance etc., to solve mathematical or real-world problems.</li> <li>Ability to isolate and fix common errors in C++ programs</li> </ul>
9	Database Management System	CORE-10	<ul style="list-style-type: none"> <li>To introduce the students to the database system.</li> <li>To learn how to design a database by using different models.</li> <li>To enable the students to understand the database handling during execution of the transactions.</li> <li>To understand the handling of database by concurrent users.</li> <li>To gain complete knowledge of SQL and PL/SQL.</li> <li>Familiarization with Database Management System.</li> <li>Comprehensive knowledge of database models.</li> <li>Ability to code database transactions using SQL.</li> <li>Skill to write PL/SQL programs.</li> </ul>
10	NETWORKING	CORE-9	<ul style="list-style-type: none"> <li>It will help students in understanding of various types of computer networks, technologies behind networks and application protocols, e-mail and communication protocols will be introduced to students through this subject.</li> </ul>

			<ul style="list-style-type: none"> <li>· Become familiar with the basics of computer networks</li> <li>· Become familiar with network architectures</li> <li>· Become familiar with fundamental protocols</li> <li>· Become familiar with basic network computing techniques</li> <li>· Explain how communication works in computer networks and to understand the basic terminology of computer networks</li> <li>· Explain the role of protocols in networking and to analyze the services and features of the various layers in the protocol stack.</li> <li>· Understand design issues in Network Security and to understand security threats, security services and mechanisms to counter.</li> <li>· Administer and maintain a computer network.</li> <li>· Demonstrate basic understanding of network principles.</li> <li>· Demonstrate understanding of how computers communicate with each other and the methods employed to assure that the communication is reliable.</li> <li>· Have a good understanding of the OSI Reference Model and in particular have a good knowledge of Layers 1-3.</li> </ul>
11	Core Java	CORE-8	<p>Covers software design, implementation, and testing using Java.  Understands fundamentals of basic java programming  Introduces object-oriented design techniques and problem solving.  Emphasizes development of secure, well-designed software projects that solve practical real-world problems.  Be able to use the java SDK environment to create ,debug, &amp; run simple java program.  Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.  Read and make elementary modifications to Java programs that solve real-world problems.  Validate input in a Java program.  Identify and fix defects and common security issues in code.  Document a Java program using Javadoc.  Use a version control system to track source code in a project.</p>
12	Software Engineering	CORE-12	<p>To understand system concepts  To know about software engineering and its application in Software development  The aim of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.  To inculcate in students different concepts of software engineering principles  To develop the skills necessary to design, develop and execute software projects.  Select and implement different software development process models  Extract and analyze software requirements specifications for different projects  Develop some basic level of software architecture/design  Understand the importance of the stages in the software life cycle.  Understand the various process models.  Be able to design software by applying the software engineering principles.  Implement software development efficiently and effectively</p>
13	Computer Graphics	CORE-13	<p>The main objective of this module is to introduce to the students the concepts of computer graphics.  This course deals with two and three dimensional transformation, projection and graphical functions. It helps to have a better understanding of 2D and 3D technologies.  Understand the basics of computer graphics, different graphics systems and applications of computer graphics.  Discuss various algorithms for scan conversion and filling of basic objects and their comparative analysis.  Use of geometric transformations on graphics objects and their application in composite form.  Extract scene with different clipping methods and its transformation to graphics display device.  Explore projections and visible surface detection techniques for display of 3D scene on 2D screen.  Performing Animation techniques using tweening and morphing.  Students will understand 2D and 3D graphic techniques which will help them to proceed with their project development.  Knowledge and understanding  a) Have a knowledge and understanding of the structure of an interactive computer graphics system, and the separation of system components.</p>



			<p>b) Have a knowledge and understanding of geometrical transformations. Have a knowledge and understanding of techniques for representing 2D geometrical objects.</p> <p>c) Have a knowledge and understanding of interaction techniques. Cognitive skills (thinking and analysis).</p> <p>a) Be able to create interactive graphics applications. b) Practical and subject specific skills (Transferable Skills). c) Perform simple 2D graphics with lines, curves and can implement algorithms to rasterizing simple shapes, fill and clip polygons and have a basic grasp of anti-aliasing techniques.</p>
14	E-commerce	DSE-4	<p>This course provides an introduction to information systems for business and management. It is designed to familiarize students with organizational and managerial foundations of systems, the technical foundation for understanding information systems Identify and apply relevant problem solving methodologies Design components, systems and/or processes to meet required specifications for a web presence Demonstrate research skills Understand the basic concepts and technologies used in the field of management information systems. Have the knowledge of the different types of management information systems. Understand the processes of developing and implementing information systems. Be aware of the ethical, social, and security issues of information systems.</p>
15	Project Work	DSE-4	<p>To be able to apply some of the techniques/principles you have been taught To carry out time planning for the project. To follow correct grounding and shielding practices To do effective trouble-shooting of the mini project. To develop effective communication skill by delivering a seminar based on mini project Demonstrate a thorough and systematic understanding of project contents. Understand methodologies and professional way of documentation and communication. Know the key stages in development of the project. Extend or use the idea in mini project for major project.</p>

## PHYSICS (UG):

Undergraduate Honours Course in Physics Students who complete the Physics Honours might come up the following knowledge and skills.

### **Core-1 Mathematical Physics:**

To solve ordinary second order differential equations important in the physical sciences; solve physically relevant partial differential equations using standard methods like separation of variables, series expansion and integral transforms.

### **Core-2 Mechanics:**

This course would empower the student to acquire engineering skills and practical knowledge, theoretical basis for doing experiments in related areas, which help the student in their everyday life. Students will gain basic knowledge for their higher studies.

### **Core-3 Electricity and Magnetism:**

Gain knowledge of Gauss laws and solve the electric field for various geometric objects. Enable to understand the concept of electrical conductivity and Gibbs Helmholtz equation. Enable to understand the concept of magnetic field. Thorough knowledge in the basic concept of electromagnetic induction. Able to derive the Maxwell's equation in free space and material media.

### **Core-4 Waves and Optics:**

This course objective will give clear idea in geometrical optics, optical properties, optical instruments and spectroscopic applications to the students. Understand the physics behind various phenomenon in wave and optics. Understand various phenomenon and the cause or origin of them

### **Core-5 Mathematical Physics-II:**

Understand vector calculus in three dimensions and derive Gauss theorem, Stoke's theorem and Green's theorem. Derive Curvilinear coordinates and differential operators in cylindrical and spherical coordinates. Apply special function to solve integral. To understand Newtonian, Lagrangian and Hamiltonian mechanics. Compare Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac Statistics and derive it's outcomes.

### **Core-6 Thermal Physics:**

This course is to develop a working knowledge of Thermal Physics to use this knowledge to explore various applications related to topics in material science and the physics of condensed matter.

### **Core-7 Analog System and Application:**

Understand different blocks in communication system and how noise affects communication using different parameters. Distinguish between different amplitude modulation schemes with their advantages, disadvantages and applications. Analyse generation and detection of FM signal and comparison between amplitude and angle modulation schemes. Identify different radio receiver circuits and role of AGC. Sample analog signal and recover original.

### **Core-8 Mathematical Physics-III:**

Learn the Fourier analysis of periodic functions and their applications in physical problems such as vibrating strings etc. Learn about the special functions, such as the Hermite polynomial, the Legendre polynomial, the Bessel functions and their differential equations and their applications in various physical problems such as in quantum mechanics which they will learn in future courses in detail. Learn the beta, gamma and the error functions and their applications in doing integrations.

### **Core-9 Element of Modern Physics:**

Use the principles of wave motion and superposition to explain the physics of polarization, interference and diffraction. To understand the basics of modern optics like Fiber optics and holography. To solve problems in optics by selecting the appropriate equations and performing numerical or analytical calculations.

### **Core-10 Digital System and Application :**

To understand the concepts of Binary codes, concepts of Boolean algebra. Gain knowledge about designing of arithmetic and logic circuits. To understand the operation of basic digital electronic devices. To provide strong ideas in Flip flops. Have foundation in the techniques and designing of counters, registers and converters.

### **Core-11 Quantum Mechanics and Application:**

To become familiar with Blackbody radiation, Ultraviolet catastrophe, Photo Electric effect and Compton Effect and hence be aware how quantum theory emerged. Have gained a clear knowledge about wave properties of particles, De Broglie waves and its implications on the uncertainty principle. Study the Bohr Atom model in detail and understand about atomic excitations. Have grasped the idea of Wave Mechanics and gain the concept of eigen values, eigen functions and learn the basic postulates of quantum mechanics. To find solution to Schrödinger's equation for many systems such as particle in a box, Hydrogen Atom and familiarize with different quantum numbers.

### **Core-12 Solid State Physics:**

The course gives an introduction to solid state physics, and will enable the student to employ classical and quantum mechanical theories needed to understand the physical properties of solids. Emphasis is put on building models able to explain several different phenomena in the solid state.

**Discipline Specific (DSE-1) Classical Dynamics:**

Define and understand basic mechanical concepts related to advanced problems involving the dynamic motion of classical mechanical systems. Describe and understand the differential equations and other advanced mathematics in the solution of the problems of mechanical systems. Describe and understand the motion of a mechanical system using Lagrange Hamilton formalism. Describe and understand the motion of the forces in non inertial systems.

**Discipline Specific (DSE-2) Nuclear and Particle Physics:**

After taking this course, students are able to determine the charge, mass of any nucleus by using various spectrograph. They are able to understand the size of nucleus and all its properties. This course has led the students to understand interaction of various types of radiation with matter which they observe in their daily life. It's easy for them now to relate the theory to practical. Students now know various methods of accelerating various types of particles to perform scattering experiments. Students are able to understand the detecting methods and instruments for different types of charged and neutral particles.

**Core-13 Electro-magnetic Theory:**

To provide students with an opportunity to develop knowledge and understanding of the key principles and applications of Electromagnetic Theory, and their relevance to current developments in physics, at a level appropriate for a professional physicist.

Core-14 Statistical Mechanics: After taking this course students are able to determine the probability of any type of events. They are able to interpret different types of events. Students have understood the concept of phase space and its volume. They can easily distinguish between different types of particles and statistics and can easily distribute bosons, fermions and classical particles among energy levels. After studying Fermi Dirac statistics, students have learnt to deal with much electron system in real life.

**Discipline Specific (DSE-3) Nanotechnology:**

To provide students the basic knowledge about the nano science and technology which help them for further research works in the emerging field of nano technology.

**Discipline Specific (DSE-4) Basic Instrumentations:**

Basic Instrumentation knowledge which is provided through this paper enable a student for basic works of electronics and Instrumentation.

## GEOGRAPHY (UG)

Paper	Title	Course Outcomes
Core-I Theory Practical	Geomorphology	<ul style="list-style-type: none"> <li>• Understand the scope of geomorphology, Internal structure of the earth and their composition.</li> <li>• Acquire knowledge about isostasy and crustal mobility of earth crust.</li> <li>• Gain knowledge about fold, fault, volcanic activities, earthquake, composition and type of rock and also idea about plate tectonic and resultant landforms.</li> <li>• Understanding crustal mobility and their role in landform developments.</li> <li>• Develop the skills of identification of features and correlation between them.</li> <li>• Ability to do field surveys using appropriate techniques.</li> <li>• Identification of different types of rocks and minerals.</li> </ul>
Core-II Theory Practical	Cartographic Techniques	<ul style="list-style-type: none"> <li>• Understand and prepare different kinds of maps.</li> <li>• Recognize basic themes of map making.</li> <li>• Development of observation skills.</li> <li>• Understand the importance and characteristics of map making.</li> <li>• Gain knowledge about the branches and scope of cartography.</li> <li>• Develop the skills of map projection.</li> <li>• Improves skills in observation and interpretation of geological map.</li> </ul>
Core-III Theory Practical	Human Geography	<ul style="list-style-type: none"> <li>• Gain knowledge about major themes of human Geography.</li> <li>• Understand the man and nature Relationship.</li> <li>• Acquire knowledge on the history and evolution of human, major racial groups, cultural realm of the world.</li> <li>• Learn to employ spatial concepts and landscape analysis to examine human social organization &amp; its environmental consequences.</li> <li>• Understand the approaches and processes of Human Geography as well as the diverse patterns of habitat and adaptations.</li> </ul>
Core-IV Theory Practical	Climatology	<ul style="list-style-type: none"> <li>• Understand the elements of weather and climate, different atmospheric phenomena.</li> <li>• Ability to record temperature, pressure, humidity and rainfall. Drawing of isobars, isotherms and isohyets.</li> <li>• Learn to associate climate with other environmental and human issues. Approaches to climate classification.</li> <li>• Prepare climatic maps and charts and interpret them.</li> <li>• Understand the importance of atmospheric pressure, winds and weather phenomena. Drawing of climograph and hythergraph.</li> <li>• Learn to use various metrological instrument.</li> <li>• Learn how cyclone and anticyclone are formed, effect of jet stream.</li> </ul>
Core-V Theory Practical	Oceanography	<ul style="list-style-type: none"> <li>• Analyze the concept of oceanography, its branches.</li> <li>• Impact of oceans in climate change.</li> <li>• Bottom relief of the Atlantic Ocean, Pacific Ocean and Indian ocean.</li> <li>• Gain knowledge about composition of ocean water, salinity and temperature of ocean water, Movement of ocean water- Waves, Tides and Currents.</li> <li>• Understand the formation of coral reefs.</li> </ul>
Core-VI Theory Practical	Statistical Geography	<ul style="list-style-type: none"> <li>• Understand the importance of statistic in geography, use of data in geography.</li> <li>• Learn the forms of data collection and their sources</li> <li>• Learn the tabulation of data, how to draw histogram, frequency curve and ogive.</li> <li>• Learn the use of Mean, Median, Mode. Measure the correlation and regression.</li> <li>• Know the different methods of sampling techniques and their uses</li> </ul>
Core-VII Theory Practical	Geography of Odisha	<ul style="list-style-type: none"> <li>• Understand the location and physiographic division of Odisha, its climatic condition, vegetation and soil groups etc.</li> <li>• Gain Knowledge about major agricultural product and cultivation belt, method of irrigation process, major agricultural problems.</li> <li>• Know the production and distribution of mineral resources their uses, and sustainability.</li> <li>• Gain information about major industries and industrial belt, economic importance of industries etc. Major transport and communication systems.</li> <li>• Understand the people of Odisha, their custom, social life, tribe etc.</li> <li>• Learn to draw choropleth, isopleth map, cartographic representation of socio economic data.</li> </ul>
Core-VIII Theory Practical	Evolution of geographical thought	<ul style="list-style-type: none"> <li>• Understand the contribution of ancient geographers in the field of geography.</li> <li>• Gain knowledge about Greek geographers, Roman geographers, British geographers etc.</li> <li>• Establishing the relationship of geography with other disciplines.</li> <li>• Analyzing modern and contemporary principles of Behaviouralism, radicalism etc.</li> <li>• Understand the recent trend and quantitative revolution in geography.</li> <li>• Gain knowledge about Surveying instrument, Use of GPS.</li> </ul>

Core-IX Theory Practical	Economic Geography	<ul style="list-style-type: none"> <li>• Understand the concept and scope of economic geography, Classification of economic activities, factor affecting the location of economic activities, Least coast</li> <li>• location theory of industry, agricultural location theory by Von Thunen.</li> <li>• Gain knowledge major agricultural belt of the world and problem of agricultural practice.</li> <li>• Maps and interpret the data on production ,transport network flow, Drawing the Isotims, Isodapens</li> </ul>
Core-X Theory Practical	Environment Geography	<ul style="list-style-type: none"> <li>• Understand the meaning of environment and ecosystem, environment tolerance and environment contrast, Function of ecosystem, food chain, food web, energy flow in ecosystem, bio geo chemical cycles etc.</li> <li>• Gain knowledge about different biomes of the world, air pollution, water pollution etc.</li> <li>• Environmental degradation, environment management and policy, role of international and national agencies, EIA etc.</li> </ul>
Core-XI Theory Practical	Regional Planning and Development	<ul style="list-style-type: none"> <li>• Understand and identify regions as an integral part of geographic study.</li> <li>• Learn to delineate the planning regions, develop an idea about choice of regional planning.</li> <li>• Discus the varied aspects of development and regional disparities and imbalance in India. <ul style="list-style-type: none"> <li>• Understand the theories and models of regional planning: Growth pole theory, Rostow growth stage theory, Myrdal core periphery theory etc.</li> </ul> </li> <li>• Gain knowledge about welfare programs-IRDP, DPAP, planning of backward region, TDA, and ITDP etc.</li> <li>• Mapping the regional disparity based on socio economic data , find out nearest neighbor analysis etc.</li> </ul>
Core-XII Theory Practical	Remote sensing and GIS	<ul style="list-style-type: none"> <li>• Have knowledge about remote sensing, sensor, types of platforms, advantage and limitation of remote sensing, component, EMS and EMR.</li> <li>• Learn the mechanism of wave particle theory</li> <li>• Interpretation of satellite imagery, aerial photograph, geometry of real photograph.</li> <li>• Training in the use of GIS software for mapping. Use of GPS and understand its function, Application of RS and GIS in different fields.</li> <li>• Mapping and digitizing of satellite image, use of stereoscope.</li> </ul>
Core-XIII Theory Practical	Geography of India	<ul style="list-style-type: none"> <li>• Understand the regional geography of India its location, physiographic division, climate, natural vegetation, soil, population, demographic structure etc.</li> <li>• Distribution, use and production of major natural resources- iron ore, petroleum, coal, natural gas, major industrial region –iron and steel industry, automobile industry, IT, textile industry etc.</li> <li>• Type of agricultural practice, method of irrigation, major crop production, problem and prospectus of Indian agriculture.</li> <li>• Drawing of choropleth map showing population density, pie charts showing occupational structure and draw the population pyramid</li> </ul>
Core-XIV Theory Practical	Disaster management	<ul style="list-style-type: none"> <li>• Understand the nature and type of Hazards and disaster.</li> <li>• Understand disaster management cycle, asses the risk and vulnerability, Prevention, mitigation and management.</li> <li>• Role of Government and non-government organization (NGO, GO, NDMA, NDRF, ODRAF and OADMA).</li> <li>• Detailed study of different natural and man-made hazards-Flood, cyclone, drought, nuclear explosion etc.</li> </ul>
DSE-I	Population geography	<ul style="list-style-type: none"> <li>• Understand the concept of population geography, source, of population data, demographic condition of population.</li> <li>• Gain the knowledge about size and growth of population, Malthusian theory of population growth, Demographic transition theory etc.</li> <li>• Determine the population Change-Fertility, Mortality and migration. Analyze the characteristics of population – Age sex, rural urban, Literacy, occupation, issues of population growth, Trend of urbanization etc.</li> </ul>

DSE-II	Resource geography	<ul style="list-style-type: none"> <li>• Understand the concept and classification of resources</li> <li>• Understand the approaches of resource utilization</li> <li>• Appreciate the significance of resources</li> <li>• Assess the pressure on resources</li> <li>• Analyze the problems of resource 3 depletion with special reference to forests, water and fossil fuels</li> <li>• Understand the distribution, utilization, problem and management of metallic and non-metallic mineral resources</li> <li>• Analyze the contemporary energy crisis and assess the future scenario</li> <li>• Understand the concept of limits of Growth, resources sharing and sustainable use of resources</li> <li>• Develop the skill of mapping forest cover from satellite images</li> <li>• Analyze the decadal changes in state-wise production of coal and iron ore</li> <li>• Learn to compute HDI</li> </ul>
DSE-III	Urban Geography	<ul style="list-style-type: none"> <li>• Understand the nature and scope of Urban geography, Trend and pattern of urbanization.</li> <li>• Trace the origin of urban area their characteristics, stages of development etc.</li> <li>• Gain knowledge about functional classification of town, <b>Central place theory</b> by Christaller, Morphology of urban settlement, and characteristics of CBD etc.</li> <li>• Understand the theories of urban growth, problem of urban slum, housing, water supply and pollution</li> </ul> <p>•Develop the skill to prepare urban land use map, gain knowledge about master plan of Delhi, Mumbai, Kolkata, Bhubaneswar and Chandigarh</p>
DSE-IV	Field work / Research methodology	<ul style="list-style-type: none"> <li>• Have expertise in identification of study area, methodology, approach, Quantitative and qualitative analysis etc.</li> <li>• Understand the fundamental of geographical research, how to prepare questionnaire, develop the skill in photography, mapping and video recording.</li> <li>• Learn how to design report, documentation structure-layout, fonts, setting of maps, diagrams, tables, bibliography and reference.</li> </ul>
GE-I Theory and Practical	Geography of India	<ul style="list-style-type: none"> <li>• Understand the regional geography of India its location, physiographic division, climate, natural vegetation, soil, population, demographic structure etc.</li> <li>• Distribution, use and production of major natural resources- iron ore, petroleum, coal, natural gas, major industrial region –iron and steel industry, automobile industry, IT, textile industry etc.</li> <li>• Type of agricultural practice, method of irrigation, major crop production, problem and prospectus of Indian agriculture.</li> <li>• Drawing of choropleth map showing population density, pie charts showing occupational structure and draw the population pyramid</li> </ul>
GE-II Theory and practical	Geography of Odisha	<ul style="list-style-type: none"> <li>• Understand the location and physiographic division of Odisha, its climatic condition, vegetation and soil groups etc.</li> <li>• Gain Knowledge about major agricultural product and cultivation belt, method of irrigation process, major agricultural problems.</li> <li>• Know the production and distribution of mineral resources their uses, and sustainability</li> </ul> <p>•Gain information about major industries and industrial belt, economic importance of industries etc. Major transport and communication systems.</p> <ul style="list-style-type: none"> <li>• Understand the people of Odisha, their custom, social life, tribe etc.</li> <li>• Learn to draw choropleth, isopleth map, cartographic representation of socio economic data.</li> </ul>

## **COURSE OUTCOME HINDI**

- CC – 1 : Understanding the origin of Hindi language and its literature, the concept of history of literature, the basis of the classification of Hindi literature and basis of the names given to each period of Hindi literature. Understanding the features of Adikal, Bhakti Kal, Ritikal and AdhunikKal in context of socio- cultural and political condition of that period.
- CC - 2 : Understanding the role played by the poets of Bhakti cult. The study of significant writers like Kabir, Jayasi and Tulsi Das, strengthens the moral and Human values of students. They learn to live in harmony with all religions and respect of all castes and faith.
- CC – 3 : Understanding the reason of emergence of Adhunik kal in Hindi Literature.
- CC-4 : Describing the Krishna Leela poetry of Soordas.
- CC-5 :Understand the various principles and types of translation. Develop an ability to translate from different languages.
- CC- 6: Describe what a novel is and how it relates human life with literature. Develop an interest in Novel reading and writing.
- CC- 7: Describe various authors (story writers) of Hindi Literature and the stories written by them. Explain various aspects of life through the medium of story writing and develop an aptitude in storytelling and writing.
- CC – 8 : Teach various literary prose forms like Biography, Autobiography, Rekha chittra etc. Demonstrate the art of essay writing. Relate prose Hindi literature with the country environment.
- CC – 9 : Describe the modern national, social and cultural environment as described in the poetry by modern Hindi poets.
- CC - 10 : Describe in a scientific way the development and forms of Hindi Language during Ancient, Medivel and Modern Period.
- CC – 11 : Describe the drama from of literature and the country's political , social and cultural environment of the country as shown in various dramas. Explain how an one act play tell a bigger story in lesser time.
- CC – 12: Explain and identify the importance of various figures of speech in poetry writing identify the objective of the poetry from the various poetries of Hindi.
- CC – 13 : Understand the modern period of Hindi Literature. Focus on evaluating the social changes through the poetry.
- CC – 14: Describe the western tradition and the thoughts of various western critics.
- DSE -1 : Describe the Ram Bhakti poetry of Tulasidas with the Philosophy of their Bhakti culture and devotional thoughts.
- DSE -2 : To understand the contribution of Premchand to Hindi Literature.
- DSE - 3 : Develop ability to make correspondence in Hindi (Letter writing) News, and Advertisement etc. Acquire skills of drafting official and scientific documents in Hindi.
- DSE -4 : To able to understand various forms of functional Hindi language relating to internet and the role of information technology in employment generation.
- GE – 1 : Describe the medieval era as medieval poetry.
- GE – 2: Describe Hindi journalism and advertising and explain the History of its development.
- AECC – MIL (HINDI): Understanding the social consciousness of Harishankar Parsai, Jaya Shankar prasad etc.

## PROGEAMME SPECIFIC OUTCOMES

### ECONOMICS

PSO1	Student will know the basic concept of economics
PSO2	Economic students in general able to and understand the past & present condition of the country
PSO3	Students are expected to apply to every day problem in real world situation
PSO4	With the basic knowledge of statistics, mathematics & economics the students are able to enhance their computing skill
PSO5	Familiar with knowledge and application of micro economics and macro economics for the formulation of plan and policy
PSO6	Students are taught research methods & technique to collect and disseminate information like primary data, secondary data & preparation of questionnaire

### HINDI

- **Completing these Programme students will be able to pursue post graduation in Hindi language and literature. They will also be able to engage themselves in different career options that demands use of Hindi as the medium of communication.**
- To prepare and motivate students for research students in Hindi language and literature and related fields.
- To provide advanced knowledge of different theories of Hindi language and literature and empowering the students to pursue higher degrees/research at reputed academic institutions.
- To nurture analytical qualities or skills, thinking power, creativity through assignments & project works.
- To assist students in preparing (personal guidance, books) for competitive exams. e.g. NET/SET, Staff Selection Commission, Banking sector/ Govt. of India undertakings (Rajbhasha Sahayak or Hindi Officer/ Hindi Translator), School Service Commission etc.
- To encourage the students for original thinking/ thought/ decision making.
- To imbibe the effective communication in both mediums of expression (oral and writing).

### BBA

1. Demonstrate proficiency in the fundamental business principles and practices that enable successful firms to operate in domestic and global environments.
2. Demonstrate critical thinking and analysis skills that solve business problems in a real-world context.
3. Demonstrate effective Communication through the delivery of written and oral presentations.
4. Specify the role of technology as a strategy for competitive advantage in business.
5. Identify ethical issues that impact business decisions from economic, political, legal, and social perspectives.
6. Acquiring Conceptual Clarity of Various Functional Areas.
7. Ability to analyze various functional issues affecting the organization.
8. Understand the ecosystem of start up in the country.

### BCA

- To pursue further studies to get specialization in Computer Science and Applications, Economics, Mathematics, business administration.
- To pursue the career in corporate sector can opt for MBA, MCA, M.Sc.(Computer Science).
- To Work in the IT sector as programmer, system engineer, software tester, junior programmer, web developer, system administrator, software developer, etc.
- To work in public sector undertakings and Government organizations.
- For teaching in Schools and Colleges.
- Students will able to understand, analyze and develop computer programs in the areas related to algorithm, system software, web design and networking for efficient design of computer-based system.
- Apply standard software engineering practices and strategies in software project development using open source programming environment to deliver a quality of product for business success.



- Student will able to know various issues, latest trends in technology development and thereby innovate new ideas and solutions to existing problems
- Analyze and recommend the appropriate IT infrastructure required for the implementation of a project
- Design, develop and test software systems for world-wide network of computers to provide solutions to real world problems.

### **BSc.ITM**

- Analyze and recommend the appropriate IT infrastructure required for the implementation of a project
- Design, develop and test software systems for world-wide network of computers to provide solutions to real world problems.

### **Statistics**

PSO-1	Acquire core knowledge of the basic concepts of statistics which include the major areas of probability theory, probability distributions, distribution theory, statistical inference, survey sampling, designs of experiments, applied statistics, mathematical methods, non- parametric test and operations research etc.
PSO-2	Practical exercises done will enable students to analyze and interpret data and also to draw valid conclusions. This will enable students to face real time applications.
PSO-3	Understand the applications of statistics concept in other disciplines such as mathematics, physics, economics, biology, computer science etc.
PSO-4	A student should get adequate exposure to global and local concerns that explore them many aspects of mathematical sciences.
PSO-5	Provides a platform for pursuing higher studies leading to Post Graduate or Doctorate degrees.
PSO-6	Enabling students to develop a positive attitude towards statistics as an interesting and valuable subject of study.