COURSE OUTCOME (UG AND PG)

Government Autonomous College Angul

Department:_BOTANY

Programme Name: (UG/PG)

Course Outcome

S.No	Core Paper	Course Name	Thrust Area/Objective	Outcome
1	C-1	Microbiology and phycology	To acquaint the students with the world of microbe and algae and their applications	To understand the microbial physiology & understand the distribution of ecology & potential uses of algal diversity
2	C-2	Biomolecules & Cell Biology	Discovering, modeling, understanding and ultimately engineering the dynamic relationships between biological molecules	Exploration of different types of biomolecules, basics of the cell & importance of cellular composition &functioning.
3	GE-1	Biodiversity	conservation of biological diversity, the sustainable use of its components	Biodiversity conservation for in-situ &ex-situ
4	GE-2	Plant physiology & Metabolism	to increase knowledge on the biochemical and biophysical basis of plant. To illustrates knowledge of stress adaptations in biological systems. To deliver molecular understanding of primary and	Acquire knowledge in various physiological and metabolic processes occur in plants

			secondary metabolic process. To present perspectives of the current tools for application in biological system for biotechnological research. Demonstrate the concept using different activities for building capacity.	
5	AECC	Environmental science and its management	The study creates awareness among the people to know about various renewable and nonrenewable resources of the region. "Environmental education is a way of implementing the goals of environmental protection.	Students will understand key concepts in the life and physical sciences and will apply them to environmental issues. Students will understand and apply the scientific process, as well as appreciate both the potential and limitations of the process.
6	C-3	Mycology & Phytopathology	teaching, research in the area of Mycology and Plant Pathology. To study the living, non-living and environmental causes of plant diseases, 2. to study the mechanisms of disease development by pathogens, 3. to study the interactions between the plants and the pathogen	Will have thorough knowledge on the science of plant pathology such as causal agents of plant diseases, symptoms and diagnoses, modes of infection and spread, effects of the environment on disease development, and methods of disease control.
7	C-4	Archegoniate	To motivate the students to undertake research in basic and applied thrust areas of archegoniates.	Enable the students to understand General characters, structure, reproduction in bryophytes, Pteridophytes and gymnosperm.

8	C-5	Anatomy of angiosperms	One must understand that anatomy of flowering plants is the study of the gross internal structure of plant organs as observed after section cutting. Flowering plants constitute different kinds of tissues. Anatomy had been one of the foundations in our understanding of plant evolutionary trends between representatives of the major angiosperm clades.	It introduces the internal structure and functional organisation of higher plants.
9	C-6	Economic Botany	Interdisciplinary in scope, Economic Botany bridges the gap between pure and applied botany by focusing on the uses of plants by people.Economic Botany documents the rich relationship that has always existed between plants and people around the world, encompassing the past, present, and potential uses of plants. The issues contain original research articles, review articles, book reviews, annotated bibliographies, and notes on economic plants.	To explain the taxonomic diversity of useful plants. To understand the plant as a food source.To have Knowledge of plants and plant products which are used as human diet. To describe the cultivational practices of oil seeds, timber, fibres and drug yielding plants. To acquire an increased awareness and appreciation of legumes and millets
10	C-7	Genetics	Plant, Animal (non human), Microbial and Human Genetics and Genomics, Cell and Molecular Biology,	Comprehensive and detailed understanding of genetic methodology and how quantification of heritable traits in families and populations provides insight into cellular

			Developmental Genetics,	and molecular mechanisms. Understanding the role of genetic technologies in industries related to biotechnology, pharmaceuticals, energy, and other fields.
11	GE-3	Plant Ecology& Taxonomy	study the history of plant taxonomy, with special emphasis on plant taxonomy in ancient India; and discuss aims, objectives and importance of taxonomy	To identify the systematic study and economic importance of plants belonging to the variousfamilies. To differentiate ecological adaptations of plants, Hydrophytes, Xerophytes and Mesophytes.
12	C-8	Molecular Biology	The field of molecular biology is focused especially on nucleic acids (e.g., DNA and RNA) and proteins—macromolecules that are essential to life processes—and how these molecules interact and behave within cells. understanding the three-dimensional structure of biological macromolecules through techniques such as X-ray diffraction and electron microscopy.	The student will gain a basic understanding on human genetics and hereditary. They learn about DNA, RNA and their replication, mutations, DNA repair mechanism and have a strong foundation on the functions of the cell. Mendelian genetics, their principles and gene interaction.
13	C-9	Plant Ecology & Phytogeography	To find out and record the distribution of plants in geographical regions of the world on the basis of latitudinal and longitudinal positions	This course will provide to understand the major factors influencing the geographic distribution of species. • Be able to understand the ecological context in which a particular species may have evolved, or a specific ecological process

				takes place.
14	C-10	Plant Systematics	Plant taxonomy is the science of discovering, identifying, describing, classifying, and naming plants. It is one of the most important branches of taxonomy (the science that finds, describes, classifies, and names living things).	It contributes to the determination of the total number of living things on the planet. Its goal is to categorise and organise biological organisms. It provides an overview of the local flora and fauna, which assists us in distinguishing between endemic and non-endemic species.
15	C-11	Reproductive Biology of angiosperms	To have knowledge of the flowering and fruiting, reproduction process, role of pollinators, ovule and seed development.	Induction of flowering and molecular and genetic aspects of flower development. Anther structure, pollen development, dispersal and pollination, Ovule, embryo sac development and fertilization, Endosperm development and its importance. Alternative pathways of reproduction and their importance. Student would be able to apply this knowledge for conservation of pollinators and fruit development
16	C-12	Plant Physiology	Plant Physiology is an integrative area of plant sciences that studies a wide array of physiological processes and environmental responses in plants at multiple scales, from molecules to pathways, from cells to tissues, from organisms to ecosystems.	explain the water, solute and sugar transport processes in plants. They explain the different mechanisms in plants used for water transport. They explain how plants achieve water balance.
17	DSE-1	Analytical Techniques in	The objective of this course is to expose the students to different	Multivariate approaches in plant science

		Plant Sciences	techniques which can be used biological fields basic research in science	
18	DSE-2	Natural Resourse Management	Minimizing pressure on forest resources and prevention of forest fire. Exploration, harvesting, spring recharge and purification of water, air and land.	Natural resources provide fundamental life support, in the form of both consumptive and public-good services. Ecological processes maintain soil productivity, nutrient recycling, the cleansing of air and water, and climatic cycles.
19	C-13	Plant metabolism	Plant Metabolism and focuses on understanding metabolism at the molecular level in organisms spanning the evolutionary lineage of terrestrial and aquatic plants, and reaching back to the basal members of this branch of life. Balance between products of primary and secondary metabolism is best for a plant's optimal growth and development as well as for its ...	A pervasive understanding on the kingdoms of biomolecules, metabolites and pathways that are the prerequisites and consequences of physiological phenomenon for further manipulations. Acquaintance with mechanistic view on the plant environment interactions. Development of integrative approach for visions in biological problems.
20	C-14	Plant Biotechnology	Technological landscape for deciphering plant biology & tools of bio-engineering have undergone a paradigm shift. Emerging technologies including precise engineering tools, computational advances, data management, non-invasive imaging,	To understand principles of animal culture, media preparation . To explain Invitro fertilization and embryo transfer technology. To describe meristem culture and clonal propagation of plants on a commercial scale. To get insight in applications or recombinant DNA technology in agriculture, production of therapeutic proteins. To describe

			nanosensors/nano-diagnostics, automation, machine learning, and artificial intelligence-assisted data integration and decision making can bring in transformative and sustainable change in Indian Agriculture by drastically improving input use efficiency and developing smart sensor plants.	commercial production of fuels, microbial enzymes. To explain the microbial degradation of pesticides, Bioremediation& Biofertilizers
21	DSE-3	Horticulture Practices	To increase the area, production and productivity of fruits, vegetable, spices, Medicinal and floriculture crops.Formulation and implementation of policies and programmes aimed at achieving rapid growth of horticultural sector.	Transfer knowledge of Agriculture/Horticulture in the field of agricultural research especially in horticulture including fruits, vegetables, flowers, spices, medicinal and aromatic plants and their management. Develop innovative agro- techniques to enhance the production and productivity of horticultural crops. Increase farmers' income through adopting hi-tech horticulture.Create job opportunities for the unemployed youths through teaching, research, training, extension etc., especially for the development of socially and economically depressed segment of society. Establishment of models nurseries in rural areas for availability of quality planting materials. Conservation and exploitation of biological diversity through crop management.

S.No	Core Paper	Course Name	Thrust Area/Objective	Outcome
1	C1	Inorganic Chemistry-I	• Know the discovery of electron, proton and neutron and their characteristics • To understand the nature electromagnetic radiation and quantum theory. • To understand the periodic law and significance of atomic no and electronic configuration as the basic for periodic classification. • To classify elements into s, p, d and f blocks and learn their main characteristics	• Upon successful completion students should be able to apply the fundamental principles of measurement, matter, atomic theory, chemical periodicity, chemical bonding, general chemical reactivity and solution chemistry to subsequent courses in science.
2	C2	Physical Chemistry-I	• To apply gas laws in various real-life situations. To explain the behaviour of real and ideal gas. • To differentiate between gaseous state and vapour. • To explain the kinetic theory of gases. • Explain the properties of liquids & solids. • To describe condition required for liquefaction of gases. • To write the expressions for equilibrium constants. • To study the laws of equilibrium. • To understand various types of colloids and its applications.	• Apply the fundamental principles of measurement, matter, atomic theory, chemical periodicity, chemical bonding, general chemical reactivity and solution chemistry to subsequent courses in science.

3	**C3**	Organic Chemistry-I	• To introduce the undergraduates about the basic concepts of organic chemistry, stereochemistry & organic reactions.	• Apply their knowledge to solve problems related to electronic displacements, stereochemistry and organic reactions. • Synthesize simple organic molecules using the studied reactions. • Identify various functional groups through the studied experiments
4	**C4**	Physical Chemistry-II	• To understand the laws of thermodynamics. • To know about the concept of equilibrium • To know about solutions and colligative properties	• The application of mathematical tools to calculate thermodynamics. • the relationship between microscopic properties of molecules with macroscopic thermodynamic observables the use of simple models for predictive understanding of physical phenomena associated to chemical thermodynamics. • the limitations and uses of models for the solution of applied problems involving chemical thermodynamic. Students • learn depth concepts about thermodynamic systems.
5	**C5**	Inorganic Chemistry-II	• To introduce general principles of metallurgy • To apply concepts of acids and bases • To study chemistry of s and p block elements, noble gases and inorganic polymers	• Gain an idea about general principles of metallurgy, acid-base concepts. Gain a thorough knowledge about the s and p Block Elements • Able to predict structure of noble gas compounds and their reactivity • Will gain a firm idea about silicones and siloxanes. Borazines, silicates and phosphazenes.
6	**C6**	Organic Chemistry-II	• To introduce different types of reaction mechanism • To understand the role of solvent, and other parameters upon reaction mechanism. • To introduce with organometallic reagents. • To learn the factors which affect acidity of alcohols and phenols. • To gain knowledge about reducing	• Understand the reaction mechanism of an organic transformations. • Gain an idea of functional group inter conversion and synthesis of small molecules using the studied reactions. • To get firm idea on the reactivity of carbonyl compounds and acid derivatives.

			agents and function. • To get an idea of preparation and reactivity of acids and acid derivatives.	
7	**C7**	Physical Chemistry-III	• To introduce the undergraduates about the fundamental aspects of phase equilibrium in binary and three component systems, • A knowledge of chemical kinetics and surface chemistry.	• Gain an idea about micelles, CST, Nernst distribution law and azeotropic systems. • Gain a thorough knowledge of chemical kinetics including Arrhenius equation, collision theory, rate expression of chemical reactions. • Will gain a firm idea about catalysis, mechanisms of catalysis, enzyme catalysed reactions. • Learn about surface chemistry, various types of adsorption isotherms, chemisorption and physisorption.
8	**C8**	Inorganic Chemistry-III	• To study fundamentals of transition chemistry • To study about the physicochemical properties of d-block and f-block elements • To study the basic principles of bioinorganic chemistry	• Gain a thorough knowledge of d-block elements, their properties and uses Will gain a firm idea about lanthanides and actinides, their extraction, properties and uses • Learn about the importance of metals ions in biological systems, their functions and toxicological effects Application of molecular spectroscopy to different molecules
9	**C9**	Organic Chemistry-III	• To introduce the factors which affect the basicity of amines, their classification and different chemical properties • To learn the chemical synthesis of polynuclear aromatic ring as well as heterocyclic rings. • To get an idea of natural sources of alkaloids and terpenes and their chemical properties	• Understand the distinction between different classes of amines and their chemical nature Synthesise small rings by using certain reaction discussed in this course • Get an overall idea of functional group inter conversion of nitrogen containing molecules • Learn the structure determination and medicinal importance of certain alkaloid like nicotin, quinine, morphin etc.
10	**C10**	Physical	• To introduce the undergraduates about the basic concepts of	• Gain an idea about conductance and conductivity, derivation of various laws of conductance.

		Chemistry-IV	conductance and its measurement and an introduction to fundamentals of electrochemistry.	• Gain a thorough knowledge of ionic velocities, hydrolysis of salts Will gain a firm idea about Faraday's Laws of electrolysis, applications in metallurgy • Learn about various types of electrodes, and the electrical properties of atoms and molecules
11	**C11**	Organic Chemistry-IV	• This course introduces the basic principles of electronic transition, selection rule, molecular vibrations and absorption of electromagnetic radiation. • Also, nuclear spin and interaction of radiation with nucleus and fundamental principle of NMR spectroscopy is discussed. • To introduce occurrence, biological importance and synthesis of carbohydrates.	• Elucidate the structure and molecular mass of small organic molecules using UV, IR, NMR, MS. Calculate the absorption maxima of conjugated molecules using Woodward rule. • To gain firm idea of functional groups present in a molecule from IR spectroscopic idea. • To determine the absolute configuration, structure, and constitution, ring size of different mono and disaccharides.
12	**C12**	Physical Chemistry-V	• The main objective is to introduce the undergraduates about the fundamental aspects of quantum chemistry and molecular spectroscopy.	• Gain an idea about fundamentals of quantum chemistry including Schrodinger equation and rigid rotator system. Gain a thorough knowledge of quantum mechanical treatment of various molecules Will gain a firm idea about rotational spectroscopy and vibrational spectroscopy • Learn about photochemistry including photoluminescence and chemiluminescence
13	**C13**	Inorganic Chemistry-IV	• The focus of this paper is to introduce students with organometallic compounds, their synthesis, properties and the mechanisms underlying their reaction.	• Understand various bonding in organometallic compounds Preparation and application of ferrocene and other compounds • Study the theoretical principles in mechanisms of organometallic compounds.
14	**C14**	Organic	• To introduce synthesis, properties, isolation of amino acids, peptides	• To understand the biological role and significance of important biomolecules. To gain an insight into classification

		Chemistry-V	and proteins. Introduce enzymes and their biological role and mechanism of action. • To gain idea about structural and chemical significance of lipids, nucleic acid and dyes and their application. • Therapeutic use of antipyretics, analgesics, antimalarials and synthesis of certain drug molecules.	and molecular features of drug and drug like molecules. • Synthesis and application of natural and synthetic dyes.

Government Autonomous College Angul

Department: Commerce

Programme Name: UG

Course Outcome

S. No	Core Paper	Course Name	Thrust Area/Objective	Outcome
1	CORE–	FINANCIALACCOUNTING	To help students to acquire conceptual knowledgeoffinancialaccountingandtoimpartskillsforrecordingvariouskindsofbusinesstransactions.	Thecoursestructureofthispaperwouldequipthestudentstoget in-depth knowledge of financial accounting along with its practical application thereby

	1			givinganopportunitytogaineasyaccesstothiscompetitivebusiness world.
2	CORE–2	BUSINESSLAW	To impart basic knowledge of the important business laws along with relevant case laws.	The students would be able to deal with the legal aspect of differentbusiness situations.
3	CORE–3	**COSTACCOUNTING**	To acquaint the students with basic concepts used in cost accounting, variousmethodsinvolvedincostascertainment.	After the completion of this paper, the students will be able to haveconfidence in managing cost issues and also to keep a check on cost control and takingmanagerialdecisions.
4	CORE–4	**CORPORATE LAWS**	to impart basic knowledgeof the provisions ofthe Companies Act, 2013 and the Depositories Act, 1996. Case studies involving issues incorporatelawsarerequired tobediscussed.	Students would acquire knowledge about the legal framework andthewaysand meanstodealwiththelegalaspectofdifferentsituationsof corporatesector.
5	CORE	CORPORATEACC	Tohelpthestudentstoacquiretheconceptualknowledgeofthecorporate accountingandtolearnthetechniquesofpreparingthefinancialstatements.	This paper can provide conceptual clarity about the techniques topreparefinancial statementsofcompaniesalongwithaccountingtreatmentofvario

	– 5	OUNT ING		ussituationsviz.floatingofshares, amalgamationandliquidationofcompanies.
6	C O RE – 6	INCO ME**TA X LAW AND PRAC TICE**	Toprovidebasicknowledgeandequipstudentswiththeapplicationofprinciples and provisionsofIncomeTax Act1961.	This paper would provide the understanding of various provisions ofIncomeTaxActaswellasequipthestudentstomakepracticalapplicationsoftheprovisionsfor taxationpurpose.
7	C O RE – 7	**MANAGEMENTPRINCIPLES&APPLICATIONS**	To providethestudentwithanunderstandingofbasicmanagementconcepts, principlesand practices.	Studentswouldbeabletomakeuseofdifferentmanagementprinciplesinthecourseofdecisionmakingindifferentformsofbusiness organizations.
8	C O RE – 8	**GST &I NDI REC TTA X**	To equip students with the principles and provisions of Goods and ServicesTax(GST),whichis,implementedfrom2017underthenotionofOneNation,OneTaxandOne Market and to acquaint students with basic provisions of GST Law and basic workingknowledge.	
9	C O RE –	**FUNDAMEN TALSOFDAT AMANAGE**	To equip students with PPT, Ms Office, DBMS, HTML	After completion, the students will be able to use Ms office, apply DBMS in accounting areas

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10	CORE–10	**MANAGEMENTACCOUNTING**	To acquaint the students with basic concepts of management accounting, andbasicunderstandingoftools andtechniques usedformanagerialdecisionmaking.	After the completion of this paper, the students will be able to haveconfidence in managing cost issues and also to keep a check on cost control and takingmanagerialdecisions.
11	CORE–11	COMPUTERIZED ACCOUNTING&E-FILINGOFTAXRETURNS	To provide knowledge regarding preparation and submission of ITR online/offline of individuals and designing computerized accounting	After completion, students are able to prepare and file ITR for individuals, design computerized accounting system using DBMS
12	CORE–12	**FUNDAMENTALSOFFINANCIALMANAGEMENT**	Tofamiliarizethestudentswiththeprinciplesandpracticesoffinancial management.	After the completion of this paper, students will be able to understandfinance in a better way along with giving them insight to practical management of long andshortfinancefor realbusinesshouses.
13	CORE–13	**AUDITINGANDCORPORATEGOVERNANCE**	Toprovideknowledgeofauditingprinciples,proceduresandtechniquesinaccordancewithcurrentlegalrequirementsandprofessionalstandardsandtogiveanoverview oftheprinciples ofCorporateGovernanceandCorporateSocialResponsibility	At the end of the paper student will have detail knowledge aboutprinciples and techniques of audit in accordance with current legal requirement and as pertheguidelinesofdifferentstatutoryauthorities.

14	CORE–14	BUSINESSMATHEMATICS	tofamiliarizethestudentswiththebasicmathematicaltools withemphasisonapplications tobusinessandeconomicsituations.	After reading this subject the students will be able to understand basicconceptsintheareasofbusinesscalculusandfinancialmathematicsandtoconnectacquiredknowledgewithpracticalproblemsineconomicpractice.
15	DSE-1	**INDIANBANKINGANDINSURANCESYSTEM**	To enable the students to acquire knowledge about basicsof banking andinsurance.	After the completion of this paper, the student will acquired practicalknowledgeofworkingmechanismofbankingandinsuranceindustriesinIndia.
16	DSE-2	**MERCHANTBANKINGANDFINANCIALSERVICES**	To enable the students to understand the basic knowledge about the financialservices availableinIndia.	Afterthecompletionofthiscourse,thestudentwillbeabletounderstand the structure and function of mercantile banking and various financial servicesavailableinthepresentbusinessworld.
17	DSE-3	**Banking&InsuranceFundamentalsofInvestment**	To familiarize the students with different investment alternatives,introducethem to the framework of their analysis and valuation and highlight the role of investorprotection.	After completion of this paper, this paper will educate the studentsabout various aspect of investment in detail along with understandability of stock marketoperation,focusingonneedfor commoninvestorprotection.
18	DSE-4	**BusinessResearchMethodsandProjectWork**	This course aims at providing the general understanding of business research andthe methods of business research. The course will impart learning about how to collect,analyze,presentandinterpretdata.	After completion of this paper, the students will be able to assess andapplyarangeofresearchmethodonapracticalproject.

Department: Commerce

Programme Name: PG

Course Outcome

S.No	Core Paper	Course Name	Thrust Area/Objective	Outcome
		Advanced Accouting	Toexposestudentswithdefinitiveandcomprehensiveaccountancycoveringadvancedandspecialisedaccounting for companies aswellas differenttypesoforganisations.	➢ DevelopInsightsaboutCorporateRestructuringandAccountingforvariousTypesofRestructuring ➢ PresentandAnalyzeConsolidatedFinancialStatementsofHoldingandSubsidiaryCompanies ➢ UnderstandDoubleAccountSystemandPrepare FinalAccountsofElectricityCompanies ➢ DeveloptheSkillofPreparationofFinancialStatementsofBankingCompanies ➢ GainKnowledgeandCompetencyinAccountingforInsurancecompanies.
		Macro Economics	This course aims at introducing the students to the specialized concepts of Macroeconomics. This coursediscusses the concepts associated with	➢ AcquireafairdegreeofProficiencyinNationalIncomeaccounting ➢ BuildCompetenceinNationalIncome Determinationandvarioussectoralmodels ➢ HaveBetterIdeaaboutmoney,credit

			the National Income Accounting and Determination, Determinationand measurement of aggregate macroeconomic variable like GDP, money, inflation, and the social costs ofmacroeconomicvariable.	creationandmonetarypolicy ➢ Developanunderstanding oftheconceptofInflationanditssocial costs ➢ KnowtheIS-LMModelanddifferentequilibrium conditions
		ORGANISATIONALBEHAVIOUR	The Objective of this course is to help students understand the Conceptual Framework of Interpersonal andOrganizationalBehaviour.	➢ UnderstandtheConceptsofOrganizationalBehavior ➢ LearnaboutGroupDynamics,TeamSpiritDevelopment,andMotivationTheories ➢ HaveaBetterInsightaboutLeadershipConcept,Styles,andTheories ➢ KnowtheBasicsofInterpersonaland OrganizationalCommunication ➢ DevelopCompetenceonSourcesand Types ofOrganizationalConflictsandtheirResolution.
		CORPORATELEGALFRAMEWORK	TheObjectiveofthiscourseistofamiliarizestudentswiththerelevantprovisionsofvariouslawsinfluencing	➢ HaveaninsightoftheIndianCompanies Actandits requisiteprovisions ➢ DevelopanideaonBankingRegulationActsprevailinginIndiaanditspolicies

			business.	➢ GainawarenessabouttheIRDAActandSEBIActandtheirnorms ➢ GainknowledgeabouttheDepositoryAct,FugitiveandEconomicOffendersAct ➢ UnderstandtheconceptsofIntellectualPropertyRightsanditsvariousActs.
		FINANCIALMODELINGANDVALUATION	The Objective of this course is to enable the students to understand the financial management in the contextof a corporate entity and acquaint them with different dimensions of financial management with applicationoftherelevanttoolsandtechniquesoffinancialdecision-makingaimedatshareholderswealthmaximization.	➢ UnderstandtheconceptofFinancial Management,Valuation&RiskManagement ➢ DeveloptheskillofCapitalInvestment Decisionsofcorporates ➢ Equipthemselveswithconceptof capitalization,financialstructureandcapitalstructure ➢ GaininsightsaboutdeterminantsofDividend,Dividendpoliciesanddividenddecisions ➢ EnabletheskillsformanagementofCurrentAssets &WorkingCapital
		DIGITALMARKETING	Theobjectiveofthispaperistohelpstudentstoacquiretheb asicconceptualknowledgeofE-Marketingandto impartskillsfor useof technologyin marketing.	➢ HaveaninsightoftheInternetinIndia, SearchEngineOptimization,andSearchAdvertising ➢ Developanideaon Displayadvertising,WebAnalytics,andConsumersOnline

				➢ GainawarenessaboutSocialMediaMarketingandSocialMediaAnalytics ➢ GainknowledgeonMobileMarketingandEmailMarketing ➢ Understandtheconceptsof Internetmarketingstrategyand Contentmarketing,PrivacyconcernsandCyber Security.
		ADVANCEDCOSTANDMANAGEMENTACCOUNTING	To acquaint the students with the advanced concepts used in cost and management accounting,various methods involved, and tools and techniques used for costing and managerial decision makingat themacrolevel	• Understandtheconceptofstandardcostingandinterpretationofvariances • Gaintheknowledgeaboutbudgetingprocessandpreparationofbudget • Knowtheconceptandestimationofprocesscosting • Understandtheprocedureofcontract costing • Knowhowtoreconcilecostandfinancialaccounting
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		STRATEGICMANAGEMENT	TheObjectiveofthiscourseistohelpstudentsunderstandtheConceptualFrameworkofBusinessStrategies to sustain inan economy.	• Understandtheroleofstrategistandvarioustypesofstrategiesusedinanorganisationswhilefacingvarioussituations. • Understandhowstrategiesareformulated andimplementedinanorganisation • Knowthestrategies usedbythemultinationalcompanies • Knowthebasicsofstrategicalliance • Knowthechallengesfacedbyanorganisationwhileformulatingstrategiesandwhatarethercenttrends in strategicmanagement
		INTERNATIONALBUSINESSENVIRONMENT	To Understand about various national and international factors that are having impact on the functioning ofbusiness.	• Defineinternationalbusinessanddescribehowitdiffersfromdomesticbusinesswithrespecttolaws,regulationsand taxation. • Identifyanddescribefactorsanddforcesthataffectanorganisation'sdecisiontointernationalizeitsbusiness

				• Describeandcomparestrategiesforinternationalization • Identifyandanalysechallenges inworking,communicating,andnegotiatinginacross-culturalcontext
		Quantitative Technique and Operational Research	To understand about various national and international factors that are having impact on the functioning ofbusiness.	• Understandthebasicsofnetworkanalysisanditsimplicationsinabusiness • Understandthegeneralstructureoftransportationproblem • Toknowthesolutionsandstrategiesforsolvingassignmentproblems • Understandthemethodofsolvinglinearprograming • Toknowthestructureofqueuingmodels
		HUMANCAPITALDEVELOPMENT	The Objective ofthis courseis to help students understand the Concept of Human Capital Developmentandmeasurementof valueadditionto theorganisation.	• UnderstandtheimportanceofHumanCapitalforanorganization. • Acquiretheconceptualknowledgeofhumanresourcedevelopmentinanorganisation. • KnowtheimportanceStrategicHumanResourceManagement&planningfortheorganization • ExplaintheimportanceofHumanResourceTraining&Development. • AppraisetheHumanResourceAccou

				ntinganditsmeasurement.
		ResearchMethodology&SummerInternship Program	The Objective of this course is to help the students to understand the use of various techniquesofeconometricsin research and writing aprojectreport.	1. Describetheresearchprocessandlistthecharacteristicsofvarioustypesofresearch. 2. FormulateResearchProblem,ResearchObjectivesandHypothesisfromagivenresearchproblem. 3. Describevariousresearchdesignsandmethodsofdatacollection 4. CreatingaDatabaseandUseofStatisticalTechniques inAnalysis
		Forensic Accounting and Auditing	Toexpose studentswithdefinitive andcomprehensive accountancycoveringForensic AccountingAuditingforcompaniesaswellasdifferenttypesoforganisations.	➢ DevelopInsightsabouttheForensicAccounting ➢ PresentandAnalyseauditenvironment ➢ Understandvariousforensicaccountingtoolsandtechnique ➢ Gainknowledgeaboutthefraudsdonebycorporates ➢ Tounderstandthereasonsforbankruptcyandmoneylaundering.
		BusinessDataAnalytics	Toexposestudentswiththehorizonsofinformationtechnologyanditsimplicationonbusiness	➢ Toknowthebasicsofinformationtechnology

				➢ PresentandAnalysetheimportanceofinformationtechnologyformanagers ➢ Understandtheprocessofofimplementationof ITonbusiness ➢ DeveloptheSkilltoapplyinformationtechnologyonbusiness ➢ GainKnowledgeabouttheprofessionalethicsandresponsibilitywhileusing IT
		BASICECONOMETRICS	TheObjectiveofthiscourseistohelpthestudentstounderstandtheuseofvarioustechniquesofeconometrics in research and statisticalproblems.	• Understandtheuseandscopeofeconometrics. • EstimateANOVAandtestingofsignificance. • UnderstandtheMulticolinearityofthevariablesanditsconsequences. • Understandtheheteroscedasticityofthedataandhowtodetectit. • Understandtheuseofdummyvariableinregressionmodel • Toacquaintedwithavailablestatistical
		IFRSandIndAS	Theobjectiveofthispaperist	• UnderstandtheconceptsofIndianAccountingStandards

			oletthestudentsknowthefundamentalsofAccountingstandardsandcorporate reporting practices. This paper will help the students to gain the knowledge on selectiveaccountingstandard.	alongwiththedifferencebetweenIndASandIFRS. • KnowthecontentsofAnnualReportandconceptoftriplebottomline. • Preparestatement ofCashflow statementandtohavebroadideaabout PPP andinventoryvaluation. • Knowbasicideas aboutfairvalueofitems offinancialstatementandthehistoryofadoptionofIndianAccounting Standards. • Understandconceptsofcorporatereportingpractices.
		Corporate Tax Planning and GST	The objective is to equip students with the principles and provisions of corporate tax structure and Goodsand Services Tax (GST), which is, implemented from 2017 under the notion of One Nation, One Tax	➢ Tounderstandthecorporatetaxstructure. ➢ PresentandAnalysetaximplicationoncorporates. ➢ Understandtaxprocedureandassessment. DeveloptheSkillof AssessmentandfillingofGST

			andOneMarketandtoacquaintstudents withbasicprovisionsofGST Law andbasicworkingknowledge.	
		International Finance	Students are encouraged to analyse andconsider international financial management decisions and are taught tools and methodologies to employ asglobalmanagers tomitigateriskand takeadvantageofopportunities in themarketplace.	○ Anunderstandingofthefoundationsofinternationalfinancialmanagement ○ Anunderstandingof theforeignexchangemarketandexchangeratedetermination ○ Arealizationoftherisksinvolvedininternationalfinancialmanagementandhowtomitigatethem ○ Anunderstandingofworldfinancial marketsandtheinstitutionsinvolved ➢ Anunderstandingoftoolsandtacticsusedinthefinancialmanagementofamultinationalfirm

DEPARTMENT OF COMPUTER SCIENCE [UG]

Course Code	Course Name	Course Outcomes	Thrust Area
CC I	Programming using C	• Explore algorithmic approaches to problem solving. • To learn basics of C programming language. • Develop modular programs using control structures. • Write programs to solve real world problems using C programming.	Computer Languages
CC II	Digital Logic	• Apply the principles of number system, binary codes and Boolean algebra to minimize logic expressions. • To understand different methods used for the simplification of Boolean functions and binary arithmetic. • To design and implement combinational circuits, synchronous & asynchronous sequential circuits. • To study in detail about Semiconductor Memory Systems.	Design and Development of Hardware
CC III	Programming using C++	• To know about the Object Oriented Programming concepts. • To be able to develop logics to create programs/ applications in C++. • Describe the concept of function overloading, operator overloading, virtual functions and polymorphism. • Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming.	Computer Languages

CC IV	Data Structures	• Understand the concept of ADT. • To learn how the choice of data structures impacts the performance of programs. • Understand basic data structures such as arrays, linked lists, stacks and queues. • Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data.	Effective data Representation
CC V	JAVA Programming	• To learn the fundamentals of Object Oriented Programming in Java environment. • To learn the use of Java language and the Java Virtual Machine. • To write simple Java programming applications. • Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages.	Computer Languages
CC VI	Database Systems	• Describe DBMS architecture, physical and logical database designs, database modelling, relational models. • Learn and apply Structured query language (SQL) for database definition and database manipulation. • Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database. • Understand various transaction processing,	Effective data storage

		concurrency control mechanisms and database protection mechanisms.	
CC VII	Discrete Mathematical Structures	• Perform operations on various discrete structures such as sets, functions, relations, and sequences • Ability to solve problems using Counting techniques, Permutation and Combination, Recursion and generating functions. • Apply algorithms and use of graphs and trees as tools to visualize and simplify Problems • Understand the basic concepts of formal languages, automata and grammar types, as well as the use of formal languages and reduction in normal forms	Study of Mathematical Structure
CC VIII	Operating Systems	• Understand the basics of operating systems like kernel, shell, types and views of operating systems • Describe the various CPU scheduling algorithms and remove deadlocks. • Explain various memory management techniques and concept of thrashing • Recognize file system interface, protection and security mechanisms.	System Software
CC IX	Computer Networks	• Identify and understand various techniques and modes of transmission. • To understand the parts of a communication network and how they work together. • Understand computer network basics, network architecture, TCP/IP and OSI reference models. • Understand network security and define	Effective Data Communication

		various protocols such as FTP, HTTP, Telnet, DNS	
CC X	Computer Graphics	• Understand the basics of computer graphics, different graphics systems and applications of computer graphics. • Understand contemporary graphics principles and graphics hardware, demonstrate geometrical transformations. • 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.	Graphics Object representation and visualization
CC XI	Web Technologies	• Discuss the insights of internet programming and implement complete application over the web. • Demonstrate the important HTML tags for designing static pages and separate design from content using Cascading Style sheet. • Utilize the concepts of JavaScript to make dynamic web pages • Use MySQL database with server-side programming php to build dynamic web pages.	Web Designing
CC XII	Software Engineering	• Plan a software engineering process life cycle , including the specification, design, implementation, and testing of software systems that meet specification, performance, maintenance and quality requirements • Able to elicit, analyze and specify software	Development of Software

		requirements through a productive working relationship with various stakeholders of the project • Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology. • Know how to develop the code from the design and effectively apply relevant standards and perform testing, and quality management and practice	
CXIII	Artificial Intelligence	• Define the concept of Artificial Intelligence. • Solve basic AI based problems. • Apply AI techniques to real-world problems to develop intelligent systems. • Select appropriately from a range of techniques when implementing intelligent systems.	Artificial Intelligence
CC XIV	Algorithm Design Techniques	• Appreciate the need for analysis of algorithms • How to analyze the best-case, average-case and the worst-case running times of algorithms using asymptotic analysis. • Design efficient algorithms for problems encountered in common engineering design situations. • Understand different algorithm design paradigm.	Effective writing of Algorithms
DSE I	Numerical Techniques	• To learn various numerical techniques. • To be able to implement different numerical techniques using programming language. • Determine an interpolating function for data	Solution using numeric approximation

		• Understanding of numerical methods for the solution of scientific problems which cannot be solved analytically.	
DSE II	Unix Shell Programming	• To learn the basics of UNIX OS, UNIX commands and File system. • To familiarize students with the Linux environment. • To learn fundamentals of shell scripting and shell programming. • To be able to write simple programs using UNIX.	Unix working environment
DSE III	Data Science	• To learn emerging issues related to various fields of data science • To understand the underlying principles of data science, exploring data analysis. • To learn the basics of R Programming. • Use appropriate models of analysis, assess the quality of input, derive insight from results.	Data Analytics
DSE IV	Project		

Course Cde	Course Name	Course Outcomes	Thrust Area
CS 1.1	Data Structure and Algorithms	• Learn the basic types for data structure, implementation and application. • Know the strength and weakness of different data structures. • Use the appropriate data structure in context of solution of given problem. • Develop programming skills which require solving given problem.	Effective writing of Algorithms and storage of data
CS 1.2	Computer System Architecture	• To understand the structure, function and characteristics of computer systems. • The student will be able to understand the major architectural styles and appreciate the compromises that they encapsulate. • They will be able to read outline descriptions of real processors and understand in which way their designs fit into the frameworks described in the course. • They will be also able to understand the impact of design choices in programming in the context of a specific architecture.	Design and Development of Hardware
CS 1.3	Database Systems & Implementation	• Identify advance database concepts and database models. • Apply and analyze various terms related to transaction management in centralized and distributed database. • Produce data modeling and database development process for object–oriented DBMS. • Analyze and Implement the concept of	Effective data storage and retrieval

		object- relational database in development of various real time software.	
CS 1.4	Discrete Mathematical Structures	• Express a logic sentence in terms of predicates, quantifiers, and logical connectives. • Apply the rules of inference and methods of proof including direct and indirect proof forms, proof by contradiction, and mathematical induction. • Use tree and graph algorithms to solve problems. • Evaluate Boolean functions and simplify expressions using the properties of Boolean algebra.	Study of Mathematical Structure
CS 1.5	Data Analysis using Python	• Understanding basics of python for performing data analysis • Understanding the data, performing preprocessing, processing and data visualization to get insights from data. • Use different python packages for mathematical, scientific applications and for web data analysis. • Develop the model for data analysis and evaluate the model performance.	Programming and Artificial Intelligence
CS 2.1	Computer Networks	• Describe how computer networks are organized with the concept of layered approach. • Describe how signals are used to transfer data between nodes. • Implement a simple LAN with hubs, bridges and switches. • Describe how packets in the Internet are	Effective Data Communication

		delivered.	
CS 2.2	Advanced JAVA	• Know some concepts of advanced programming and practice on reusing components. • Write sophisticated Java applications. • Use the Java language for writing well-organized, complex computer programs with both command line and graphical user interfaces. • Learn how to write, test, and debug advanced-level Object-Oriented programs using Java.	Programming
CS 2.3	Operating System Design	• Identify the low-level structure and internal mechanism of operating system. • Describe the main responsibilities of a contemporary operating system (OS). • List the most fundamental subsystems of an OS and the functions that each subsystem is responsible. • Recognize and give examples of conflicting goals and compromises necessary in implementing an OS and configuring its run-time parameters	System Design
CS 2.4	Theory of Computation	• Model, compare and analyse different computational models using combinatorial methods. • Apply rigorously formal mathematical methods to prove properties of languages, grammars and automata. • Construct algorithms for different problems and argue formally about correctness on different restricted machine models of	Theoretical model of Computer

		computation. • Identify limitations of some computational models and possible methods of proving them	
CS 2.5	Data Mining	• Perform the data preparation tasks and understand the implications. • Demonstrate an understanding of the alternative knowledge representations such as rules, decision trees, decision tables, and Bayesian networks. • Demonstrate an understanding of the basic machine learning algorithmic methods that support knowledge discovery. • Identify alternative data mining implementations and what might be most appropriate for a given data mining task.	Artificial Intelligence
CS 3.1	Artificial Intelligence	• Have fundamental understanding of the basic concepts of artificial intelligence (AI). • Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning. • Have knowledge of current scope and limitations, and societal implications of AI. • Have basic foundation of machine learning.	Artificial Intelligence
CS 3.2	Software Engineering	• Identify, formulate, and solve complex problems by applying principles different principles of software engineering. • Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	Development of Software

		• Communicate effectively with a range of audiences and recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts. • Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	
CS 3.3	Compiler Design	• Realize basics of compiler design and apply for real time applications. • Understand the importance of code optimization • Know about compiler generation tools and techniques • Construction of a Compiler for a simple programming language	System Design
CS 3.4	Information Security	• Understand cryptography and network security concepts and application • Apply security principles to system design • Identify and investigate network security threat • Analyze and design network security protocols	Security
CS 3.5	Machine Learning	• Understand decision tree learning algorithm. • Understand neural network, hypothesis accuracy estimation.	Artificial Intelligence

		• Understand supervised Learning to obtain a predicted output. • Understand unsupervised Learning on data.	

Government Autonomous College Angul

Department:__ECONOMICS

Programme Name: __ECONOMICS HONOURS(UG/)

Course Outcome

S.No	Core Paper	Course Name	Thrust Area/Objective	Outcome
1	CORE-1	Introductory Microeconomics	• To expose the students to basic principies of micro economic theory • To think like an economist • How to apply micro economic concepts to real life situations	• Learn basic principles of micro economics • Interaction of Demand and Supply • Characteristics of perfect and Imperfect Markets • Can take decision as a consumer/producer
2	CORE-II	Mathematical Economics for Economics-I	• To Expose the students to the fundamental mathematical concepts used in Economics	• Upgrading Mathematical knowledge and skills acquired in schools • Helps in preparing the student for 2nd semester Mathematical Methods for Economics-II • Learn optimization technique which

			• To apply mathematical concepts for through understanding microeconomics	helps in analysis and business decision making • Student can get a job as analyst in corporate houses
3	CORE-III	Introductory Macroeconomics	• To understand basic macroeconomic concepts • To know the determination of aggregate macro economic variables like GDP, Saving,Investment, money,inflation and Balance of payment.	• Can underswtand and comment upon real economic issues like inflation, money supply, GDP their interlinkages • Critically evaluate macroeconomic policies
4	CORE-IV	Mathematical Economics for Economics-II	• To Expose the students to the fundamental mathematical concepts used in Economics • To apply mathematical concepts for through understanding microeconomics	• Upgrading Mathematical knowledge and skills acquired in schools • Helps in preparing the student for 2nd semester Mathematical Methods for Economics-II • Learn optimization technique which helps in analysis and business decision making • Student can get a job as analyst in corporate houses

5	CORE-V	Microeconomics-I	• To provide a sound training on microeconomic theory to formally analyse the behavior of individual agents • To learn the behavior of consumer, producer and compoetative firm	• Students will know abourt consumers theory,production theory and functioning of competitive market
6	CORE-VI	Macroeconomics-I	• To introduce the student the formal modelling of macroeconomy in terms if analytical tools • To teach alternative theories of output and employmenr in a closed economy • Theoretical issues related to open economy	• The students will analyse and interpreteconsumptiopontheories,investment theories, demand and supply of money, IS-LM framework, inflation,unemployment,trade cycle etc.
7	CORE-VII	Statistical Methods for Economics	• To imntroduce the students the basic concepts and terminology which are fundamental to statical analysis and inference	• Students can analyse real economic data • Can draw inferences using statical tools like mean, standarddeviation , correlation, index number, time series
8	CORE-VIII	Microeconomics-II	• To give conceptual clarity to the student using	• To understand efficiency of markets, market failure,market imperfections etc.

			mathematical tool and reasoning	
9	CORE-IX	Macroeconomics-II	• To introduce the student long run issues like growth,technological progress, Research and Development, innovation, knowledge creation	• Enable the student to combine their knowledge of working of macroeconomy with longrun economic phenomenon like economic growth, thechonological progress, Research and Development, innovation • Can understand business cycle and role of policies
19	CORE-X	Research Methodology	• To introduce the student regarding the basuic concepts of research i.e. meaning ,types,methodology ,data analysis and presentation • To know the ethics of research	• Can write own research paper in a systematic manner
	CORE-XI	Indian Economy-I	• Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points	• a student should be able to understand the development paradigm adopted in India since independence and evaluate its impact on economic as well as social indicators of progress and well being
	CORE-	Development	• The course begins with a discussion of	• This course introduces students to the basics of development

	XII	Economics-I	alternative conceptions of development and their justification. It then proceeds to aggregate models of growth and cross-national 22 comparisons of the growth experience that can help evaluate these models. The axiomatic basis for inequality measurement is used to develop measures of inequality and connections between growth and inequality are explored. The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that	economics, with indepth discussions of the concepts of development, growth, poverty, inequality, as well as the underlying political institutions

			affect state governance	
	CORE-XIII	Indian Economy-II	• This course examines sector-specific polices and their impact in shaping trends in key economic indicators in India. It highlights major policy debates and evaluates the Indian empirical evidence	• At the end of the course, a student should be able to understand the role of economic policies in shaping and improving economic performance in agriculture, manufacturing and services
	CORE-XIV	Development Economics-II	• This is the second course of the economic development sequence. It begins with basic demographic concepts and their evolution during the process of development. The structure of markets and contracts is linked to the particular problems of enforcement experienced in poor countries. The governance of communities and	• This course teaches the student various aspects of the Indian economy, as well as important themes relating to the environment and sustainable development. It also introduces them to some issues of globalisation

			organizations is studied and this is then linked to questions of sustainable growth. The course ends with reflections on the role of globalization and increased international dependence on the process of development	

Government Autonomous College Angul

Department:____ECONOMICS

Programme Name: PG

Course Outcome

Core Paper	**Course Name**	**Thrust Area/Objective**	**Outcome**
HCE-101	MICRO ECONOMICS -I	To have a theoretical understanding of consumer behavior and decision-making 2. To get acquainted with recent advances in microeconomic theory and acquire the skills to apply the theoretical knowledge in	On successful completion of this course students will be able to 1. have an understanding of the basic reasoning of Economics and understand the consumption; production and cost concepts in an analytical way; 2. apply mathematical tools and techniques to study behavior of economic agents; and

		research 3. To learn about theory of demand, Utility Functions - types and properties; Consumers' choice involving risk and uncertainty; Production function – types and properties; Theories of Cost and general equilibrium theory – An overview.	3. understand the basic principles of General equilibrium theory.
HCE-102	MACRO ECONOMICS -I	1. To analyse and establish the functional relationship between economy level/aggregates. 2. To have a proper understanding of macroeconomic theoretical structure 3. To educate the students on different terms and concepts in macroeconomics like national income accounting, Circular flows, consumption function, investment function, supply and demand for money etc	On successful completion of this course students will be able to: 1. apply the subject knowledge in understanding the working of the economy as well as the macroeconomic issues and policies; and 2. understand systemic facts and theoretical developments.
HCE-103	QUANTITATIVE METHODS-I	1. To train the students to use the techniques of mathematical and statistical analysis, which are commonly applied to understand and analyze economic problems	On completion of this course, a student should be able to 1. express relationship between economic variables mathematically, analyze, optimize and interpret them; 2. use appropriate techniques to solve

		2. To emphasize the mathematical methods rather than learning mathematics itself, which are usually used for understanding economic concepts 3. To learn about the classical techniques involving functions and calculus 4. To gain knowledge about the elements of Game Theory as applicable to real life economic analysis.	problems with calculus and linear algebra; and
HCE-104	PUBLIC ECONOMICS	1. To provide the students with thorough analytical understanding to analyze public goods, externalities, market failures; economics of government expenditure, taxation and public borrowing; 2. To critically analyze fiscal policies/finance and its implication in Indian Economy.	On successful completion of this course, the students will be able to 1. have conceptual clarity on the theories of public goods, public expenditure, public revenue and public borrowing; and 2. apply the principles of public economics in analyzing various government policies
HCE-105	INDIAN ECONOMIC PROBLEMS	1. To critically understand the economic growth trajectory, economic policies, and institutional reforms of modern India	On successful completion of this course students will be able to 1. have a clear picture of the economic growth trajectory, economic policies, and institutional reforms in India; 2. understand four major economics

		2. To understand four major economics challenges of Indian Economy, i.e. Poverty, Inequality, Unemployment and inflation 3. To have an in-depth analysis of the sectoral contributions of agriculture, industry and service sector in India 4. To examine the operation and implementation of fiscal and monetary policy in India	challenges of Indian Economy, i.e. Poverty, Inequality, Unemployment and inflation; 3. have an in-depth analysis of the sectoral contributions of agriculture, industry and service sector in India; and *4.* understand the nitty-gritty of fiscal and monetary policy.
HCE-201	MICRO ECONOMICS -II	1. To impart theoretical knowledge on decision making under market imperfections 2. To impart theoretical knowledge on distribution.	After completing the course, the students are expected to have 1. deeper knowledge on decision making under different market imperfections including oligopoly; 2. deeper knowledge about the broad paradigm of neo-classical economics; and 3. deeper knowledge about distributional and welfare aspects of economic activities.
HCE-202	MACRO ECONOMICS -II	1. To make the students understand the different terms and concepts in macroeconomics like Money market and real market, inflation in developing countries, causes of occurrence of business cycle in a market economy and ways to control them. 2. To expose the students to open	On successful completion of this course students will be able to 1. apply the subject knowledge in understanding the macroeconomic dynamics both in a closed and an open economy; and 2. understand the functioning of a market economy and the ways and means to keep such an economy functioning properly

		economy macroeconomics and the dynamics there in.	
HCE-203	QUANTITATIVE METHODS-II	1. To train the students to use the techniques of probability theory and statistical analysis, which are commonly applied to understand and analyze economic problems 2. To deals with simple tools and techniques, which will help in sampling theory and designs, data collection, analysis, theory of estimation and hypothesis testing 3. To initiates the correlation analysis - simple, multiple and partial, and regression analysis - linear and non-linear.	On completion of this course, a student should be able to 1. have fair idea about probability theory which forms the foundation of inferential statistics; 2. understand theoretical distributions and their significance; 3. understand sampling and sampling designs, theory of estimation and hypothesis testing procedure; and 4. fit a linear and some commonly used non-linear curves.
HCE-204	ECONOMICS OF SOCIAL SECTOR	1. To study the role of economics in evaluating education and education policy 2. To familiarize with educational problems in the context of economic concepts, theories and techniques make education choices 3. To explain and predict education markets and their inefficiencies	On successful completion of the course, students will be able to 1. understanding of key concepts, issues, theories and models relating to economics of education, along with empirical evidence on and policy implications of those theories and models and a deeper understanding of recent research activity; 2. understand methods used by economists to evaluate education policies; 3. understand and Model the Education Production Function;

		4. To outline key principles of health economics including efficiency and equity 5. To provides a foundation for and rationale for performing economic evaluation	4. gain knowledge of the key analytical reasoning and tools of health economics and their normative foundations and ethical implications; basic economic theories and models of regulation applied to health care providers as hospitals and long-term care organizations and the health-related behavioral determinants and an overview of some recent policies aimed at improving the populations' lifestyles; 5. use economic models to understand behaviors of actors in the health care sector, do analyses of needs for health care services, make analyses of efficiency and quality of health care organizations, find and utilize relevant data sources describing and use relevant econometric models for the analysis of the economic agents' behaviour;
CEE-201	ECONOMICS OF GROWTH AND DEVELOPMENT	1. To learn neoclassical growth models of Solow, Meade, Robinson, Kaldor and Pasinetti 2. To discuss about Cambridge criticism over measurement of capital 3. To understand the importance of endogenous growth theories which highlight on human capital as an essential component for a country like India 4. To analyse the investment decisions through investment	On completion of this course, a student should be able to 1. To gain knowledge about recent developments in growth and development, and in particular dynamic growth theories focusing, among other issues, on labor market distortions, pollution and the cost benefit of projects to be undertaken

		criterion along with its merits and demerits	
HCE-301	BASIC ECONOMETRICS	1. To introduce the relevant econometric theory and explaining the theory with examples 2. To understand Classical Linear Regression Models and regression diagnostics 3. To develop an intuitive understanding of the material that will allow these econometric tools to be utilized effectively and creatively.	On successful completion of this Course, students will be able to 1. learn various basic econometric methods, estimation methods and related econometric theories; and 2. apply these methods to data or econometric modeling techniques.
CEE-301	INDUSTRIAL ECONOMICS	1.To acquaint the students with the concepts ,principles issues connected with trade unions,collective bargaining, womens participation, grievance redressal and employees discipline and dispute resolution 2.To provide understanding of industrial relation problems, about laws and framework for analysis of such problems 3.To make students understand	1. Education and experience in industrial relation and management can open up many exiting career opportunities 2.Students can be able to solve various industrial problems

		various concepts of industrial relations of employers and employee, industrial dispute acts, trade union acts, industrial Employment Acts	
AEE-301	AGRICULTURAL ECONOMICS	1. To impart knowledge on applications of economic theories in agricultural sector, 2. To make students understand the linkage between agriculture and other sectors of the economy. 3. To impart knowledge on new developments in the policy paradigms related to agricultural sector.	After completing the course, the students are expected to have 1. deeper knowledge on different theories related to economic development and the agricultural sector; and 2. increased interest to undertake research activities related to aspects of agricultural sector in India and Odisha.
FEE-301	INTERNATIONAL FINANCE	1. To educate the students on different terms and concepts in international finance like exchange rate and interest rate determination and forecasting, different forms of derivatives and its uses, different financial risk in international market. 2. To enhance the skill of the student to understand the activities in international market.	On successful completion of this Course, students will be able to 1. appreciate the functioning of the international financial markets and its management and the determination of different exchange rates; and 2. understand the way the foreign exchange market and the derivatives markets and the capital markets function using futures, options and swaps.

FEE-302	ENTERPRENEURSHIP AND ECONOMIC DEVELOPMENT	1.To gain an understanding of core economic principles and how they apply to wide range of real word issues 2.To provide analytical skills required for understanding problems in industrial economics 3.to help students in understanding of cost structure and their role in firm decision	1. The students can describe an explain the determination of the size and structure of the firm and implications of the separation of ownership and control 2.The students can understand the industrial environment and thus able to solve the problems in an efficient manner
CEE-401	DISSERTATION	To teach the students the basic elements of research project writing	The students will be able to prepare and present their own research thesis
CEE-402	DEMOGRAPHY	1.To achieve knowledge about the size, composition, organisation and distribution of population 2.Can describe the past evolution present distribution and future changes in population of an area 3.To enquire the trends of population and its relation with the different aspects of social organization in an area	1.It enables the students to earn about population growth and the measures to control it 2.Students can understand the concepts like fertility, mortality and migration and apply suitable measures in real life 3. Students can assist in addressing developmental challenges related to population growth such as poverty, unemployment and health issues

AEE-401	FINANCIAL INSTITUTIONS AND MARKET	1. To educate the students on different terms and concepts in financial institutions and market like commercial and central bank, monetary policy, money and capital market. 2. To enhance the understanding of the students about organisation, operation and growth of financial systems.	On successful completion of this Course, students will be able to 1. understand the financial system: its structure and functions and equilibrium; 2. understand the way the different rates of interests are determined; 3. appreciate the functioning and importance of different banking and non-banking financial institutions and their role in a developing economy; and 4. explain the role and structure of money and capital markets.
AEE-402	INDUSTRIAL REALTION AND MANAGEMENT	1.To aware the students about the present industrial era in India. 2.To make students self reliant and provide work- life autonomy in the field of industry in India 3. To motivate the students for innovation and to help them in making a new start up in future 4.To. provide sufficient ideas of business activity like management of HRM, marketing Financial management, Transformational management, visionary management	1. After having a brief knowledge of entrepreneurship ,it will help in entry level roles in business, finance marketing sales and human resource 2. The course provides entrepreneurial skills needed to start a company 3. 3.Helps in providing career opportunities for the students

AEE-403	FINANCIAL INCLUSION AND ECONMIC DEVEOPMENT	The objectives of this course are to provide the students with thorough understanding of 1. financial inclusion and exclusion, relation between financial inclusion and economic development; and 2. role of financial institutions, micro finance and micro insurance in financial inclusion.	On successful completion of this course, the students will be able to 1. learn and analyse the dimensions of financial inclusion, the progress of financial inclusion in India; and 2. analyse the complexities associated with financial inclusion in India.

Government Autonomous College Angul

Department:____Education_

Programme Name: U.G.

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Core-1	Educational Philosophy	To state and analyse the meaning of education and form own concept on Education.	By studying this one can compare & contrast Indian and western philosophies of Education.
Core-2	Educational Psychology	It can improve the understanding of students upon the classroom teaching and learner's behaviour.	Learning this paper the students will be able to use educational psychology in their teaching learning task.
Core-3	Educational Sociology	To describe the relationship between education and sociology	Through this paper a student can justify the importance of education for social change.
Core-4	Changing Pedagogical perspective	It can create a revolution in the traditional teaching & learning method and improvise the pedagogical knowledge.	By studying this paper a student can prepare a lesson plan in different design by his/her own.

Core-5	Educational Assessment and Evaluation	To know the importance and purpose of assessment for learning.	Students will able to develop or construct an unit test on any school subject.
Core-6	Educational Reaserch	To understand research design and procedure of research in education.	Students will able to develop procedure of collecting and analyzing data.
Core-7	Statistics in Education	To compute and use various statistical measures of average, variation and interpretation of educational data.	Students will able to understand, organize and represent educational data in tabular and graphical form.
Core-8	History of Education in India	To understand the development of education in India during ancient period, medieval period and pre independence period.	Students will able to implement recomendation of different policies and commitee's reports of education in India.
Core-9	CurriculumDevelopment	To analyse bases and sources of different curriculum from courses of study and textbooks.	Students will able to make content analysis of any text book.
Core-10	Guidance and Counseling	To explain the role of school in organising different guidance programmes.	Students will narrate the process, tools and techniques of guidance and counselling.
Core-11	Development of Education in Odisha	To grasp the structure of educational system of Odisha.	To improve Quality of education resulting in enhance intellectual, social and cultural learning.
Core-12	Information and Communication Technology in Education	To identify describe and apply emerging technology in teaching and learning.	Students are expected to use computers, network, internet.
Core 13	Contemporary trends and issues in Indian education	To understand the importance of emerging concerns in Indian education	Students will analyze various problems and issues for ensuring quality in Education

Core 14	Educational Management and leadership	To the structure of Educational management at different levels from National to institution level	Students will develop the total quality management approach in Education
DSE I	Pedagogy of language	To know the appropriate Pedagogical treatment for effective classroom transaction	Students will understand the different methods and strategies of teaching
DSE II	Pedagogy of social science	To identify methods and skills of teaching history and political science for transacting the contents	Students will develop their skills and competencies to formulate specific learning objectives for history and political science.
DSE III	Policy and practices in school education in India	To analyse various policies on education for school .	Students will explore various policies and can implement the policies on school education.
DSE IV	Research Project	To emphasise the needs to be achieved within the scope of research.	Students will learn how to develope a conceptual thesis and manage a research project.

Government Autonomous College Angul

Department:Education

Programme Name: P.G.

Course Outcome

Core Paper	**Course Name**	**Thrust Area/Objective**	**Outcome**
Core-I	Educational Philosophy	To state and analyse the meaning of education and form own concept on Education.	By studying this one can compare & contrast Indian and western philosophies of Education.

Core-II	Educational Psychology	It can improve the understanding of students upon the classroom teaching and learner's behaviour.	Learning this paper the students will be able to use educational psychology in their teaching learning task.
Core-III	Educational Sociology	To describe the relationship between education and sociology	Through this paper a student can justify the importance of education for social change.
Core-IV	Changing Pedagogical perspective	It can create a revolution in the traditional teaching & learning method and improvise the pedagogical knowledge.	By studying this paper a student can prepare a lesson plan in different design by his/her own.
Core-V	Educational Assessment and Evaluation	To know the importance and purpose of assessment for learning.	Students will able to develop or construct an unit test on any school subject.
Core-VI	Educational Reaserch	To understand research design and procedure of research in education.	Students will able to develop procedure of collecting and analyzing data.
Core-VII	Statistics in Education	To compute and use various statistical measures of average, variation and interpretation of educational data.	Students will able to understand, organize and represent educational data in tabular and graphical form.
Core-VIII	History of Education in India	To understand the development of education in India during ancient period, medieval period and pre independence period.	Students will able to implement recomendation of different policies and commitee's reports of education in India.

Core-IX	CurriculumDevelopment	To analyse bases and sources of different curriculum from courses of study and textbooks.	Students will able to make content analysis of any text book.
Core-X	Guidance and Counseling	To explain the role of school in organising different guidance programmes.	Students will narrate the process, tools and techniques of guidance and counselling.
Core-XI	Development of Education in Odisha	To grasp the structure of educational system of Odisha.	To improve Quality of education resulting in enhance intellectual, social and cultural learning.
Core-XII	Information and Communication Technology in Education	To identify describe and apply emerging technology in teaching and learning.	Students are expected to use computers, network and internet.
CORE XIII	Eucational Technology	To improve the quality of education and enhance learning	Students can use educational technology to access online resources that help them at their own pace.
CORE XIV	Curriculum Development	To develop qualities that make a child socially effective and happy in various social settings such as friendliness, cooperativeness, self-disciplines, self-control, social justice etc	Course coordinators, tie together learning opportunities within and across courses.

CORE XV	Preparation and presentation of synopsis	It enables students to focus and structure the paper more concrete. It is the plan for research project	It elevates the writing skill of a student. It enables a student good summarizer , academic writers and many others.
CORE XVI	Educational Administration , supervision and management	To provides qualitative improvement to education. To ensure adequate utilization of all resources.	It enables students to prepare exemplary portfolio with which to pursue their professional goals, instructional leaders and community engagementyes
CORE XVII	Environmental Education	It allows students to explore environmental issues, engage in problem solving and take action to improve the environment.	Multidisciplinary instructors, environmental educators
CORE XIX	Economics of education	To study and practice of resource generation, allocation and utilization in education.	It enables students to know educational finance, sources and distribution, cost benefit of investment in education
CORE XX	DISSERTATION	To make some new contributions to it and find gaps in it.	It enables the student user generator, decision-making in a social media environment

Government Autonomous College Angul

Department:___English

Programme Name: UG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
C-1	British Poetry and Drama	14th to 17th centuries	# Read and explore seminal texts from the early modern period. # Ideas about Modern English Poetry strengthened. # Idea of Renaissance literature garnered.
C-2	British Poetry and Drama	17th and 18th centuries	# Acquaint students with Jacobean and 18th century British poetry and Drama. # Introduce to the students the world of Comedy of Humours, Comedy of Manners, Satiric Poetry.
C-3	British Prose	18th century	# Acquaint students with a new form of literature—the Essay. # Acquaint them with the shift from reason to emotion.
C-4	Indian Writing in English		# Introduce students to the field through a selection of representative poems, novels and plays.
C-5	British Romantic Literature		# Study the works of representative writers. #Acquaint students with key ideas like return to nature, subjectivity, freedom, defiance of classicism
C-6	British Literature	19th century	# Introduce students to19th century British literature through study of fiction and poetry.
C-7	British Literature	Early 20th century	# Introduce students to modernist canon in poetry, novel, and literary criticism.

C-8	American Literature		# Introduce students to canonical authors from American literature in poetry and plays.
C-9	European Classical Literature	8th cent. BC to 5th AD	# Introduce students to European Classical Literature that began in Greece in 8th cent BC and continued until the fall of Roman Empire in 5th century AD. # Study founding texts of the European canon.
C-10	Women's writing		# Acquaint students with works of women writers from different cultures and nations. # Discuss issues of patriarchy, gender, and relations of desire and power.
C-11	Modern European Drama		# Introduce students to the best of experimental and innovative dramatic literature of modern Europe.
C-12	Indian Classical Literature		# Create awareness among students of the rich and diverse literary and aesthetic culture of ancient India.
C-13	Post Colonial Literatures		# Ideas about European colonialism and empires in Asia, Africa, Middle East, the Pacific. # Study the texts in terms of compliance, resistance, mimicry, subversion
C-14	Popular Literature		# Introduce students to genres like children's literature, detective fiction, campus fiction. # Examine why some of them have mass appeal.

DSE-1	Literary Theory		# Expose students to basic premises and issues of major theoretical approaches to literary texts.
DSE-2	World Literature		# Introduce students to the study of world literature. # Study translation of texts written in languages other than English.
DSE-3	Partition Literature		# Read significant writings on Indian Partition. # Issues of loss, trauma, communalism, alienation, displacement explored in these texts.
DSE-4	Writing for Mass Media/ Project		# Writing for Print Media—News stories, features, and editorials. # Writing for electronic Media—Advertisement caption writing and taglines. # Writing e-mails, blogs, social networking, internet journalism
GE-1	Academic Writing and Composition		# Academic writing-- summarizing and paraphrasing. # Critical thinking—synthesis, analysis, and evaluation. # Editing, book and media review.
GE-2	Nation, Culture, India		# Introduce students to basic ideas about Indian Cultural Ethos through study of literature.
SECC	English Communication		# Build up the four primary skills in students for academic use and use in offices. # Activity based, goal oriented, functional course. # Equip students with relevant skills of presentation and expression.

AECC	Alternative English		# Boost learners' competence in expressive and comprehension skills. # Usage, vocabulary, and grammar for mastery in English Language.

Government Autonomous College Angul

Department: English

Programme Name: PG

Course Outcome

Core Paper	**Course Name**	**Thrust Area/Objective**	**Outcome**
Core-1	Literary Criticism	From Plato to Leavis	#Introduce students to tradition of western literary criticism from classical antiquity to early modern period # The role of criticism in literary studies. # Inform students about the foundational principles of western literary criticism
Core-2	The Age of Initiation and		# Acquaint students with the shift from

	the Age of Exploration		Middle ages to Renaissance # Inform students the larger historical, political, and cultural changes of the time # The rise of Drama and the beginning of Metaphysical poetry. # The rise of Puritanism and its impact on literature.
Core-3	The Age of Reason		# Acquaint students with transformations that occurred in English Literature # The major features of Neo-Classicism and Enlightenment # The foregrounding of logic and reason # Study three representative forms: Essays, mock-heroic poetry, and restoration drama.
Core-4	Age of Uncertainty		# Develop familiarity with dominant intellectual currents of the Victorian era. # Identify the major themes and characteristics of Victorian literature. # Explore the democratic spirit in politics, a scientific attitude towards life, and colonialism.
Core-5	Age of Uncertainty		# Introduce students to a democratic spirit in politics, a scientific attitude towards life, and

			colonialism. # Expose the dominant intellectual currents of the Victorian era. # Identify themes and characteristics of Victorian literature.
Core-6	Literary Theory		# Appreciate the relevance and value of literary studies. # Demonstrate greater understanding of major critical tools available. # Apply critical concepts in close reading of a literary text.
Core-7	The Age of Anxiety		# Expose students to works of modern period marked by anxiety, a spirit of self-questioning, and flair for experimentation.
Core-8	The Age of Anxiety		# Measure the impact of historical, political, social and cultural events on literature. # Understanding of literary modernism and its experimentation with language.
Core-9	Literature from the World		# Reading of selected literary texts from around the world. # Evaluate impact of indigenous issues and concerns #Examine how the texts represent collective

			humanity.
Core-10	Research Methods in English Studies		# Grasp the basics of research in literary studies. # Choose the type and tools of research to write their MA project. # Understand the nature and scope of research
Core Elective	Indian Writing in English		# Familiarize students with major writings in Indian English fiction, non-fiction, poetry, and translation. # Phases of development such as colonial, post-colonial, and modern times. # Explore Indian litterateurs describing their environs and social milieu
Allied Elective	Professional Writing		# Learn the basic skills of writing and editing # Create an employable post-graduate
Free Elective	Gothic Literature		# Introduce students to the genre of gothic #Focus on the major themes in Gothic literature #Expose the thrilling psychological environment

Government Autonomous College Angul

Department:Geography

Programme Name: UG

Course Outcome

Core Paper	Thrust Area/Objective	Outcome	**Whether there is any Local/Regional/National/Global relevance?**
CC-1(Geomorphology)	• Study of landforms and its evolution • Understand the nature of geomorphology, process and form, history and Geomorphic system	• Understand the evolution of landforms through various endogenic and exogenic forces	• **To understand the global climate action by studying the history of the landform evolution.** **(Goal-13)**
CC-2 (Cartography)	• Study of map making its charecteristics and scope • Concept and application of basic Geodesy and scale. • Study of map projection and geological maps.	• Understand the concept of map making ,scale and basic Geodesy.	• **To understand the concept of map making through various projection and it enhance quality of education.** **(Goal-4)**
CC-3(Human Geography	• Study the man nature relationship, various racial groups and their charectereristics .	• Understand the man nature relationship, demographic characteristic of population, global population trend, pattern and typeofsettelement, global urbanization trend.	• **To understand the sustainable cities and community through global population trend and global**

)	• Study of global distribution of major racial groups, Language and Religion. • Study of Demographic charecteristics of population, factors affecting population distribution and global population trends. • Study of different types and patterns of settelement, trend of world urbanization.		**urbanization trend. (Goal-11)**
CC-4 (Climatology)	• Study the composition and structure of the atmosphere, various elements of weather and climate. • To understand atmospheric pressure and winds, concept of air mass and weather forecasting.	• To understand various elements of weather and climate.	• **To understand the Global Climate change.** • **(Goal-13)**
CC-5 (Oceanography)	• To study the bottom relief of the ocean . • To study the origin of the ocean water, temperature and salinity distribution. • Understand the movement of ocean water and various marine resources.	• To understand the various features of ocean bottom relief and various marine resources • To understand the ocean water movement.	**To understand the global climate change and life under the water. (Goal-13,14)**

CC- 6 (Statistical Methods in Geography)	• To study various aspects of data, its source and data measurements. • To study and understand the descriptive statistics, Measures of Dispersion and Measures of Association.	• To understand the data source and methods of data measurements. • To understand the descriptive statistics, Measures of Dispersion and Measures of Association.	

CC-7(Geography of Odisha)	• To study the Physiography of Odisha, its agriculture, minerals and power resources, Population distribution, and trends of Urbanization.	• To understand the physiography of Odisha and resource distribution.	
CC- 8(Evolution of Geographical Thought)	• To study the Concept of geography through the eras. • To study the dichotomy in Geography, Modern Geographical Thought and recent trends in development of Geography	• To understand the trend of development in the subject Geography	

CC- 9(Economic Geography)	• To study the scope of economic geography , classification of economic activities	• To understand the scope of economic geography and classification of various economic activities.	• **To understand about the economic growth by establishing industry.** **How physiography is responsible for economic growth. (Goal- 8&9)**
CC- 10(Environmental Geography)	• To study the scope of Environmental Geography, Concept of Ecosystem, Concept of Biome. • To study Environmental Degradation, its causes and consequences and its management	• To understand the concept of environmental geography, its degradation and its management.	**To understand about the man environmental relationship as well as sustainable development. (Goal- 6,7, 13, 14 & 15)**
CC- 11(Regional Planning and Development)	• To study the concept and types of region. • To study the delineation of planning regions, theories and Models for Regional Planning. • To study the Policies and Programs for Rural and Regional Development.	• To understand the Concept of region and regional Planning through various theories and models. • To understand the policies and programs for Rural and Regional Development.	• **Understand how economic growth is responsible for regional development by implementation of different policies. (Goal- 9,10 11 &17)**
CC- 12 (Remote Sensing andGIS)	• To study the components of Remote sensing, Aerial Photography, principles of Stereo Vision • To study the concept of GIS its components. • To study the application of RS and GIS in mapping.	• To understand the components of RS and GIS. • To understand the application of RS and GIS in mapping.	**This paper is provide us knowledge regarding recent useful tools of RS and GIS. (Goal- 4)**
CC-13(Geography	TostudythePhysiographyofIndia,itsagriculture,mineralsandpowerresources,Populationdistribution,andtrendsofUrbani	Tounderstandthephysiographyof India andresourcedistribution.	

of India)	zation			
CC-14(Disaster Management)	To study the concept of Hazards and Disasters. To study the disaster management cycle and role of various stake holders.	To understand the difference between hazards and disaster. To understand the disaster management cycle and role of stake holders in managing the disaster.		**To understand the natural hazard and how it related with climate and Earth's structure. (Goal-13)**
DSE 1(Population Geography)	To study the nature and scope of population Geography. To study the population size, distribution and growth, determinants of population, population composition and charecteristics	To understand the determinant, composition and size of population. To understand the scope and field of study of population Geography		**This paper is providing idea about the good health &well being, quality education, gender equality, no poverty and zero hunger. (Goal-1,2,3,4,5)**
DSE 2(Resource Geography)	To study the concept, types and classification of resources. To study the problems of resource exploitation, its management and approach towards sustainable development.	To understand the concept and distribution of resources. To understand the problems of resource exploitation and its management. To understand the concept of sustainable development.		**This paper illustrate about the optimum use of natural resources, promote sustainable industrialization and encourage innovation.(Goal-9)**
DSE 3(Urban Geography)	To study the history of Urbanization, its trend and patterns globally. To study the various classification of cities through theories.	To understand the history of Urbanization, its global trend. To understand the function classification of cities, urban problems and its management.		**To know the inclusive and sustainable urbanization, better planning for human settlements, and create a positive support of economic, social and environmental**

	To study the urban issues, problems and steps to crub it. To study few case studies with reference to city planning.			**links between urban and its periphery. (Goal-11)**
DSE 4 (Field work and Research Methodology)	To study and analyze the methodology in research. To study the value of field study and collection of primary data.	To understand various research methodology, data collection and its analysis in research work.		**To understand various methodology of research of quality education. (Goal-4)**

Government Autonomous College Angul

Department:__Geology

Programme Name: UG

Course Outcome

Core Paper	**Course Name**	**Thrust Area/Objective**	**Outcome**
CC1	General geology	Internal structure of earth, Geomorphology	Glaciation and its causes,geological phenomena
CC2	Remote sensing ,Tectonics	Scale,resolution,marine sediments	Mineral exploration,groundwater exploration
CC3	Mineralogy	silicate,non silicate minerals	To identify various minerals like Diamond,olivineetc,

CC4	Optics and Geochemistry	cosmic abundance of elements ,structure and composition of earth	To identify minerals
CC5	Igneous petrology	forms of igneous rocks ,its diversity	Megascopic identification of rocks
CC6	Sedimentary petrology	origine ,textures,provenance	Megascopic identification of rocks
CC7	Metamorphic petrology	Metamorphic facies ,its relation with tectonism	Megascopic identification of rocks
CC8	Paleontology	fossils study	To know about past environment condition
CC9	Stratigraphy	Determining the age of various rock strata	To know the stratigraphy of odisha and other states
CC10	Structural geology	To study fold,faultetc	significance in field study
CC11 And 13	Process of formation and mineral economics, Economic geology	process of formation of minerals and mineral economics	To identify ore ,gangue minerals, industrial minerals
CC13 and 14	Ground water and environmental geology ,mining and environmental geology	Ground water exploration, open cast mining,Disaster management	various measures that must be taken

Government Autonomous College Angul

Department:___History

Programme Name: UG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
C=1	History of India-I	Pre history of India	Familiar with prehistory of India
C-2	Social Formations and Cultural Patterns of the Ancient World	Prehistory of Ancient Civilizations	Knowledge on major ancient civilizations
C=3	History of India –II (350BCE-750CE)	Ancient history of India	Familiar with early history of India
C-4	Social Formations and Cultural Patterns of the Medieval World	Ancient history of Rome and Cultural life of Medieval Europe	Religious and Cultural developments in Medieval Europe
C-5	History of India –III(750-1206CE)	Early Medieval history of India	Familiar with early medieval history of India
C-6	Rise of the Modern West-I	Culture & Economy of Medieval Europe	Transition In Europe – religion and Economy
C-7	History of India-IV(1206-1526CE)	Cultural Life of Early Medieval India	Familiar with early medieval history of India
C-8	Rise of the Modern West - II	Emergence of new political & economic order in Europe	Developments in science and economy of Europe

C-9	History of India –V (1526-1750CE)	Cultural & economic life in later medieval period	Familiar with the culture and economy of the relevant period
C-10	Historical Theories and Methods	Development in the writing of history	Trends in historical writing
C-11	History of Modern Europe I (1780-1880)	Growth of nationalist and democratic ideas in Europe	Familiar with the concept of nationalism and democracy
C-12	History of India –VII (1750-1857)	Consolidation of British power & resistance to it	Understanding the early phase of British colonialism in India
C-13	History of India –VIII (1857-1950)	Nationalism and Freedom movement in India	Idea on the freedom movement in India
C-14	History of Modern Europe II(1880-1950)	Marxism, Socialism and Two World Wars	Familarity with the major historical developments of the period
DSE-I	History and Culture of Odisha-I	Early history of Odisha	To gain knowledge on the geography and early history of Odisha
DSE-2	History and Culture of Odisha-II	Political development in Odisha in medieval and modern period	Idea on political developmets in Odisha during the medieval and modern period
DSE-3	History and Culture of Odisha-III	Culture and religion in ancient Odisha	Knowledge on the culture of Odisha
DSE-4	Project Report	Significant events of Indian or World history	Detailed study on specific topic

Government Autonomous College Angul

Department:____History

Programme Name: ____PG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
C-1	**Ancient Civilizations**	**Prehistory of some anceint civilizations**	**Technological development during the Neolithic Age and Bronze Age**
C-2	**World History (1500-1900)**	**Transition from Medieval period to modern period**	**Idea of nationalism, democracy, parliamentary reforms and revolutionary movements**
C-3	**Twentieth Century World (1900-1945)-I**	**Developments during the period between the two world wars**	**Economic and political problem in different countries, Nazism, Fascism , Effort for disarmament**
C-4	**Twentieth Century World(1945-200)-II**	**Post world war II period, Organizations like UNO, NATO, Disintegration of USSR**	**Political & diplomatic relation between European and Non-European countries, Regional security Alliances**
C-5	Historical Theories and Methods	**Development in Historical writing**	**Historical writing in Greece, Medeivalunderstanding , Scientific history and Total history**
C-6	**Medieval Societies**	**Medieval religions-**	**Idea on Confucianism , Taoism, Judaism, Christianity**
C-7	**Cultural Heritage of India**	**Culture and religion of India**	**Understanding Indian Culture, religion, language, literature, art and architecture**
C-8	**History of China and Japan**	**Political, economic development in China and Japan**	**Knowledge of history of China and Japan**
C-9	**Indian Historiography**	**Historical writing in India**	**Interpretation of history, Marxist, colonial, nationalist and Subaltern school**
C-10	**History of Science and Technology in India**	**Science and Technology**	**Technological innovations in India**

-C-11	**Cultural Heritage of Odisha**	**Religion, Art and Architecture**	**Buddhism, Jainism and the Cult of Lord Jagannath**
C-12	**History of Peasant and Labour Movements in India**	**Peasant and Labour studies**	**Knowledge on Peasant, Labour and trade Union Movement**
C-13	**History of Odisha (Early Times to 1118AD)**	**Early history of Odisha**	**Familiar with the geography, polity and culture of ancent Odisha**
C-14	**History of Odisha (1118-1500AD)**	**Political and cultural development in Early Medieval Odisha**	**Familiar with political and cultural history of Early medieval Odisha**
C-15	**History of Odisha (15^{th} -16^{th} century)**	**Culture in Medieval Odisha**	**Idea on early Odia literature and Bhakti movement**
C-16	**Application of history in Tourism**	**Historical sites, and monuments**	**Familiar with monuments, art and architecture and religion of Odisha**
C-17	**Women in Indian History**	**Women studies**	**Developments in India and role of women**
C-18	**Odisha in 16^{th} -19^{th} century**	**Mughal and Maratha rule in Odisha**	**Familiar with Maratha and Mughal rule in Odisha**
C-19	**History of Odisha(1866-1964)**	**Economic and Political development in Odisha**	**Idea on Growth of Odia Nationalism and political developments**
C-20	**Project**	**Odisha history**	**Detailed study on specific topics**

Government Autonomous College Angul

Department:_Mathematics

Programme Name: UG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Core 1	Calculus	The primary objective of this course is to introduce the basic tools of calculus and geometric properties of different conic sections which are helpful in understanding their applications in planetary motion, design of telescope and to the real-world problems. Also, to carry out the hand on sessions in computer lab to have a deep conceptual understanding of the above tools to widen the horizon of students' self-experience. .	This course will enable the students to: • Sketch curves in a plane using its mathematical properties in the different coordinate systems of reference. • Apply derivatives in Optimization, Social sciences, Physics and Life sciences etc. • Compute area of surfaces of revolution and the volume of solids by integrating over cross-sectional areas.
Core 2	Discrete Mathematics	Thisisa preliminary courseforthebasiccoursesinmathematicsandallits applications. The objective is to acquaint students with basic counting principles, set theory and logic, matrix theory andgraphtheory.	This course will enable the students to: • Do simple mathematical modeling. • Theycanstudyadvancecoursesinmathematicalmodeling, computerscience,statistics,physics,chemistryetc. • Graphs, their types and its applications in study of shortest path algorithms.
Generic Elective -1	Calculus and Differential Equations	Calculusinvented by Newton and Leibnitz ispowerfulanalytical tool to solve mathematicalproblems which arise in all branches of science and engineering. The main emphasis of this course is toequip the student with necessary analytic and technical skills to handle problems of a mathematicalnature as well as practical problems using calculus and differential equation. The aim should be to exposethestudentstobasicideasquicklywithoutmucht	This course will enable the students to: • applyknowledgeofcalculusanddifferentialequationsintheareas oftheirowninterest. • Draw the graph of functions in polar coordinates • Visualize cross sections of various 3D objects like sphere, ellipsoid etc. • Analyze real-world scenarios to recognize when ordinary (or systems of) or partial differential equations are appropriate for creating an appropriate model.

		heoreticalemphasiswithimportanceon applications.	
Core 3	Real Analysis	The course will develop a deep and rigorous understanding of real line R and of defining terms to prove the results about convergence and divergence of sequences and series of real numbers. These concepts hasvide range of applications in real life scenario.	This course will enable the students to: • Understand many properties of the real line and learn to define sequence in terms of functions from N to a subset of R • Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence. • Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers. • To have a rigorous understanding of the concept of limit of a function. • The geometrical properties of continuous functions on closed and bounded intervals.
Core IV	Differential Equations	The main objectives of this course are to introduce the students to the exciting world of Differential Equations, Mathematical Modeling and their applications.	This course will enable the students to: • Formulate Differential Equations for various Mathematical models. • Solve first order non-linear differential equation and linear differential equations of higher order using various techniques. • Apply these techniques to solve and analyze various mathematical models.
Generic Elective -II	Algebra	This is a preliminary course for the basic courses in mathematics like, abstract algebra andlinearalgebra.Theobjectiveistoacquaintstudents withthepropertiesofnaturalnumbersi.e.Euclideanalgorithm, congruence relation, fundamental theorem of arithmetic, etc. The basics of linear algebra i.e.vector spaces matricesareintroducedhere.	This course will enable the students to: • Studyfurthercoursesinmathematicslike, group theory, ring theory and field theory and linear algebra. • It has applications not only in highermathematicsbutalsoinothersciencesubjectslikecomputer science,statistics,physics,chemistryetc. • to learn the techniques of proving mathematical theorems.
Core V	Theory of Real	The objective of the course is to have knowledge on limit theorems on functions, limits offunctions,	This course will enable the students to:

	functions	continuity of functions and its properties, uniform continuity, differentiability of functions,algebra of functions and Taylor's theorem and, its applications. The student how to deal withrealfunctionsand understand uniformcontinuity,meanvalue theorems.	• Students will have working knowledge on theconcepts and theorems of the elementary calculus of functions of one real variable. • workout problems involving derivatives of function and their applications. • Some of the families and properties of Riemann integrable functions, and the applications of the fundamental theorems of integration. • Beta and Gamma functions and their properties.
Core VI	Group Theory-I	Group theory is one of the building blocks of modern algebra. Objective of this course is tointroduce students tobasic concepts of group theory and examples of groups and their properties. Thiscoursewillleadtofuture basic courses in advanced mathematics,suchasGrouptheory-IIandringtheory.	The course will enable the students to: • Recognize the mathematical objects that are groups, and classify them as abelian, cyclic and permutation groups, etc; • Link the fundamental concepts of Groups and symmetrical figures; • Analyze the subgroups of cyclic groups; • Explain the significance of the notion of cosets, normal subgroups, and factor groups.
Core VII	Partial differential equations and system of ODEs	The objective of this course is to understand basic methods for solving Partial DifferentialEquationsoffirstorderandsecondorder.Int heprocess,studentswillbeexposedtoCharpit'sMethod ,Jacobi Method and solve wave equation, heat equation, Laplace Equation etc. They will also learnclassificationofPartialDifferentialEquationsand systemofordinarydifferentialequations.	The course will enable the students to: • Formulate, classify and transform partial differential equations into canonical form. • Solve linear and non-linear partial differential equations using various methods; and apply these methods in solving some physical problems.
Core-VIII	Numerical Methods and Scientific Computing	Calculation of error and approximation is a necessity in all real life, industrial and Scientific computing. The objective of this course is to acquaint students with various numerical methods of finding solution of different type of problems, which arises in different branches of science such as locating roots of equations, finding solution of systems of linear equations and differential equations, interpolation, differentiation, evaluating	The course will enable the students to learn the following: • Some numerical methods to find the zeroes of nonlinear functions of a single variable and solution of a system of linear equations, up to a certain given level of precision. • Interpolation techniques to compute the values for a tabulated function at points not in the table. • Applications of numerical differentiation and integration to convert differential equations into difference equations for numerical solutions.

		integration.	
Core IX	Topology of Metric spaces	This is an introductory course in topology of metric spaces. The objective of this course is to impart knowledge on open sets, closed sets, continuous functions, connectedness and compactness in metric spaces.	The course will enable the students to: • Understand the basic concepts of metric spaces; • Correlate these concepts to their counter parts in real analysis; • Appreciate the abstractness of the concepts such as open balls, closed balls, compactness, connectedness etc. beyond their geometrical imaginations.
Core X	Ring Theory	This is a second course in modern algebra which deals with ring theory. Some basics of ring theory like rings, subrings, ideals, ring homomorphisms and their properties and.This course is an integral part of any course on Modern algebra the others being Group theory and Field Theory.	The course will enable the students to learn about: • The fundamental concept of Rings, Fields, subrings, integral domains and the corresponding morphisms. • Appreciate the significance of unique factorization in rings and integral domains.
Core XI	Multivariable Calculus	The objective of this course to introduce functions of several variable to a student after he has taken a course in one variable calculus. The course will introduce partial derivatives and several of its consequences and will introduce double and triple integrals along with line Integrals which are fundamental to all streams where calculus can be used.	The course will enable the students to learn about: • to calculate partial derivatives, directional derivatives, extremum values • to calculate double, triple and line integrals. He will have idea of basic vector calculus including green's theorem, divergence theorem. and stokes theorem. • To take courses in calculus on manifolds, Differential geometry and can help in numerical computations involving several variables.
C-XII	Linear Algebra	Linear algebra is a basic course in almost all branches of science. A full course in undergraduate program will help students in finding real life applications later. The objective of this course is to introduce a student the basics of linear algebra and some of its application	The course will enable the students to learn about: • The concept of linear independence of vectors over a field, the idea of a finite dimensional vector space, basis of a vector space and the dimension of a vector space. • Basic concepts of linear transformations, the Rank-Nullity Theorem, matrix of a linear transformation, algebra of transformations and the change of basis. • It has applications in computer science, finance mathematics, industrial mathematics, bio mathematics and what not.

C-XIII	Complex Analysis	The objective of the courseis aimed to provide an introduction to the theories for functions of a complex variable. The concepts of analyticity and complex integration are presented. The Cauchy's theorem and its applications, the calculus of residues and its applications are discussed in detail.	The course will enable the students to learn about: • Understand the significance of differentiability of complex functions leading to the understanding of Cauchy-Riemann equations. • Evaluate the contour integrals and understand the role of Cauchy-Goursat theorem and the Cauchy integral formula. • Expand some simple functions as their Taylor and Laurent series, classify the nature of singularities, find residues and apply Cauchy Residue theorem to evaluate integrals.
C-XIV	Group Theory-II	The objective of this course is to be exposed to more advanced results in group theory after completing a basic course. The course introduces results on automorphism, commutator subgroup, group action Sylow theorems etc.	The course shall enable students to learn about: • Automorphisms for constructing new groups from the given group. • Group actions, Sylow theorems and their applications to check nonsimplicity. • Students can learn on direct products, group actions, class equations and their applications with proof of all results.
DSE-1	Linear Programming	The objective of this course is to familiarize industrial problems to students with various methods of solving Linear Programming Problems, Transportation Problems, Assignment Problems and their applications. Also, students will know the application of linear Programming method in Game Theory.	This course will enable the students to learn: • Analyze and solve linear programming models of real life situations. • The relationships between the primal and dual problems and their solutions with applications to transportation, assignment and two-person zero-sum game problem. • This is also prerequisite for studying advanced courses in Nonlinear Programming Problems, Inventory Control Problem and Queuing Theory etc.
DSE-II	Probability and Statistics	The objective of the course is to expertise the student to the extensive role of statistics in everyday life and computation, which has made this course a core course in all branches of mathematical	This course will enable the students to learn: • Distributions to study the joint behavior of two random variables. • To establish a formulation helping to predict one variable in terms of the other, i.e., correlation and linear regression.

		and engineering sciences.	• Central limit theorem, which helps to understand the remarkable fact that**:** the empirical frequencies of so many natural populations, exhibit a bell shaped curve.
DSE-III	Differential Geometry	After learning methods on curve tracing and Analytic Geometry, the objective of this course is to teach Differential geometry of curves and surfaces which trains a student using tools in calculus to derive intrinsic properties of plain curves and space curves.	This course will enable the students to learn: • Serret-Frenet formulae, relation between tangent, normal and binormals, • First and second fundamental forms and ideas on various curvatures. • He has scope to take more advanced courses in surface theory and geometry.
SECC-II	Quantitative and logical thinking (special course)	• To engage the students for more creatively to improve their critical thinking skill • To strengthen the quantitative and logical thinking of Undergraduate students	This course will enable the students to learn: • Students can able to appear competitive examination

Government Autonomous College Angul

Department:_ Mathematics

Programme Name: PG

Course Outcome

Core Paper	**Course Name**	**Thrust Area/Objective**	**Outcome**
MTC101	Real Analysis	The aim of this course is to learn the basic elements of Measure Theory, with related discussions on applications in probability theory.	After the course the students are expected tobeable to: • define and understand basic notions in abstract integration theory, integration theory on topological spaces and the n dimensional space • describe and apply the notion of measurable functions and sets and use Lebesgue monotone and dominated convergence theorems and Fatous' Lemma • describe the construction of and apply the Lebesgue

			integral • describe the construction of product measures and use Fubini's theorem • describe the notion of absolute continuity and singularities of measures and apply Lebesgue decomposition and the Radon-Nikodym theorem apply Hölder's and Minkowski's inequalities and describe Riesz representation theorem • describe the notion of extended real valued and complex measures
MTC102	Complex Analysis	The objective of this course is to introducethefundamentalideasofthefunctions of complex variables and developing aclearunderstandingofthefundamentalconcepts of Complex Analysis such asanalytic functions, complex integrals andarangeofskillswhichwillallowstudentstoworkeffectivelywiththe concepts.	After the course the students should be able to • Represent complex numbers algebraically and geometrically, • Define and analyze limitsand continuity for complex functions as well as consequences of continuity, • Apply the concept and consequences of analyticity and the Cauchy-Riemann equations and of results on harmonic and entire functions including the fundamental theorem of algebra, • Analyze sequences and series of analytic functions and types of convergence, • Evaluate complex contour • integrals directly and by the fundamental theorem, apply the Cauchy integral theorem in its various versions, and the Cauchy integral formula and Represent functions as Taylor, power and Laurent series, • classify singularities and poles, • find residues and evaluate complex integrals using the residue theorem.
MTC103	Topology	Thisisanintroductorycourseintopologyofmetricspaces. The objective of thiscourse is to impart knowledge on opensets,closedsets,continuousfunctions,connectednessandcompactnessinmetricspaces.	On successful completion of the coursestudents will learn to work with abstracttopological spaces. This is a foundationcourseforallanalysiscoursesin future.

		• Workwithtopologicaldefinitionsand theorems related to thecontentdescribed. • Readandevaluatethecorrectnessoftopologicalproofs. • Produce examples andcounterexamples that illustratewhy theorem hypotheses arenecessaryorwhyastatementisuntrue. • Drawpicturestorepresenttopologicalideas. • Formulate conjectures abouttopologicalconcepts,andtestthese conjectures. • Provetopologicalstatements. • Use topological ideas (e.g.,homeomorphisms, fundamentalgroup)toclassifyspaces. • Presentmathematicalargumentsbothorallyandinwriting.	
MTC104	Advanced Abstract Algebra	Group theory is one of the building blocks of modern algebra. Objective of this course is to introduce studentsto basic concepts of grouptheory and examples of groupsand their properties. Thiscourse will lead to future basiccourses in advancedmathematics, such as Grouptheory-II and ring theory.	A student learning this course gets idea on • concept and examples of groups and their properties. • He understands cyclic groups, permutation groups, normal subgroups and related results. • After this course he can opt for courses in ring theory, field theory, commutative algebras, linear classical groups etc. and can be apply this knowledge to problems in physics, computer science, economics and engineering.
MTC105	Data Processing and Numerical Computing Lab	This course provides an introduction to Computer Algebra System (CAS) viz. C++ that are widely used in scientific computing. The major objective of this course is to enable students to make use of symbol tools of these CAS and also develop programming skills for solving problems of real world more	At the end of the course, the students will be able to : • Apply the knowledge of mathematical software viz. MATLAB and C++ to solve real world problems efficiently • Utilize the symbolic tools of these CAS for handling different mathematical problems for example, solution of equations, differentiation, integration etc.

		efficiently and accurately	• Design and analyze their own computer codes of mathematical methods.
MTC201	Functional Analysis	Learn the fundamental structures of Functional Analysis. Get familiar with the main examples of functional spaces, in particular with the theory of Hilbert spaces and Lebesgue spaces. Get familiar with the basic notions of operator theory. Be able toframe a functional equation in an abstract functional setting.	After the course the students are expected to be able to: • recognize inner product spaces • Identify duals of some normed spaces. • Identify whether a real valued function defined on Cartesian product of a vector space is inner product or not and an inner product space is Hilbert space or not. • explain the normed space which is not an inner product space • identify orthogonal sets • identify orthogonal sets • understand the notion of orthogonal complement and the decomposition of the space • explain total sets • explain main theorems for normed spaces • explain Hahn -Banachteorem identify open mapping theorem • explain closed graph theorem
MTC202	Differential Equation	The objective of this course is to familiarize the students with various methods of solving differential equations and to have a qualitative applications through models. The students have to solve problems to understand the methods.	A student completing the course is able to: • solve differential equations and is able to model problems in nature using Ordinary Differential Equations. • This is also prerequisite for studying the course in Partial Differential Equations and models dealing with PartialDifferential Equations.

MTC203	Linear Algebra	linear algebra helps the student understandgeometric concepts such as planes, in higher dimensions, and perform mathematical operations on them. It can be thought of as an extension ofalgebra into an arbitrary number of dimensions. Rather than working with scalars, it works with matrices and vectors.	A student completing the course is able to: • analyze the solution set of a system of linear equations. • express some algebraic concepts (such as binary operation, group, field). • doelemantary matrix operations. • express a system of linear equations in a matrix form. • do the elementary row operations for the matrices and systems of linear equations. • investigate the solition of a system usingGauss elimination. • apply Cramer's rule for solving a system oflinear equations, if the determinant of thematrix of coefficients of the system is notzero. • generalize the concepts of a real (complex)vector space to an arbitrary finite-dimensionalvector space. • definite a vector space and subspace of avector space. • explain properties of R^n and subspaces ofR^n. • determine whether a subset of a vectorspace is linear dependent. • describe the concept of a basis for a vectorspace. • investigate properties of vector spaces andsubspaces using by linear transformations. • express linear transformation betweenvector spaces. • represent linear transformations bymatrices. • explain what happens to representingmatrices when the ordered basis is changed. • describe the concepts of eigenvalue,eigenvector and characteristc polynomial. • determine whether a linear transformation is diagonalizable or not.
MTC204	Numerical Optimization	• find acceptable approximate solutions when exact solutions are either impossible or so arduous and time-consuming as to be impractical;	A student completing the course is able to: • understand how to assess and check the feasiblity and optimality of a particular solution to a general constrained

		• devise alternate methods of solution better suited to the capabilities of computers; • formulate problems in their fields of research as optimization problems by defining the underlying independent variables, the proper cost function, and the governing constraint functions.	optimization problem; • use the optimality conditions to search for a local or global solution from a starting point; formulate the dual problem of some general optimization types and assess their duality gap using concepts of strong and weak duality; • understand the computational details behind the numerical methods discussed in class, when they apply, and what their convergence rates are. • master the main numerical methods; • understand the bases of linear programming, unconstrained optimization, constrained optimization; • be able to analyze the behaviour of these numerical methods and in particular to be able to discuss their stability, their order of convergence and their conditions of application; • be able to apply these methods to academic and simple practical instances; • demonstrate the abilities to – apply knowledge of mathematics and computing to the design and analysis of optimization methods, – analyze a problem and identify the computing requirements appropriate for its solution, – design and conduct experiments and numerical tests of optimization methods, and to analyze and interpret their results
MTC205	Data base and C++ Lab	• This course is designed to provide understanding of implementation of basic optimization methods for solving different problems • Further, this course will develop programming skills in the students in order to write and implement their own computer programs for solving problems arising in science, engineering and economics. • Understanding the relational database design principles	At the end of the course, the students will be able to • Master the basics of SQL and construct queries in SQL • Understand and modify existing codes in scientific computing based on the use of different loops and conditional structures. • Identify the challenging problems in mathematics and find their appropriate solutions accurately and efficiently using Computer Algebra System. • Apply their knowledge of computer programming to

			develop and implement their own computer codes of optimization methods for solving different types of complex problems
MTC301	Numerical Analysis-I	To provide the numerical methods of solving the non-linear equations, interpolation, differentiation, and integration. To improve the student's skills in numerical methods by using the numerical analysis software and computer facilities.	At the end of the course, the students will be able to • Apply numerical methods to find our solution of algebraic equations using different methods under different conditions, and numerical solution of system of algebraic equations. • Apply various interpolation methods and finite difference concepts. • Work out numerical differentiation and integration whenever and wherever routine methods are not applicable. • Work numerically on the ordinary differential equations using different methods through the theory of finite differences. • Work numerically on the partial differential equations using different methods through the theory of finite differences.
MTC302	Number Theory and Cryptography-I	The main objective of this course is to build up the basic theory of the integers, prime numbers and their primitive roots, the theory of congruence, quadratic reciprocity law and number theoretic functions, Fermat's last theorem, to acquire knowledge in cryptography specially in RSA encryption and decryption.	At the end of the course, the students will be able to • know the basic definitions and theorems innumber theory, to identify order of an integer, primitiveroots, Euler's criterion, the Legendre symbol, Jacobi symbol and their properties, to understand modular arithmetic number theoretic functions and apply them

			to cryptography.
MTC303	Statistical Methods	1. Studentsshouldbefamiliarwiththeterminologyandspecial notation of statistical analysis. The terminologyconsistsofthefollowing: a. StatisticalTerms i. Population ii. Sample iii. Parameter iv. Statistic v. DescriptiveStatistics vi. InferentialStatistics vii. SamplingError b.MeasurementTerms i. Operationaldefinition ii. Nominal iii. Ordinal iv. Interval v. Ratio vi. Discretevariable vii. Continuousvariable viii. Real limits c. Research Terms i. Correlationmethod ii. Experimentalmethod iii. Independentvariable iv. Dependent variable v. Non-experimentalmethod vi. Quasi-independentvariable 2. Students should learn how statistical techniques fitintothegeneralprocessofscience	A student completing the course is able to: • Distinguish types of studies and their limitations and strengths, • Describe a data set including both categorical and quantitative variables to support or refute a statement, • Apply laws of probability to concrete problems, • Perform statistical inference in several circumstances and interpret the results in an applied context, • Use mathematical tools, including calculus and linear algebra, to study probability and mathematical statistics and in the description and development of statistical procedures, • Use a statistical software package for computations with data, • Use a computer for the purpose of simulation in probability and statistical inference, and • Communicate concepts in probability and statistics using both technical and non-technical language

		3.Studentsshouldlearnthenotation,particularlysummationnotation. 4. Students should understand the concept of afrequencydistributionasanorganizeddisplayshowingwhere all of the individual scores are located on thescaleofmeasurement. 5. Studentsshouldbeabletoorganizedataintoaregular or a grouped frequency distribution table, andunderstanddatathatarepresentedina table.	
MTC304	Discrete Mathematics	This is a preliminary course for the basic courses in mathematics and all its applications. The objective is to acquaint students with basic counting principles, set theory and logic, matrix theory and graph theory.	The acquired knowledge will help students in simple mathematical modeling. They can study advance courses in mathematical modeling, computer science, statistics, physics, chemistry etc.
MTC305	Computational Fluid Dynamics-I	A tool that allows the student to visualizecomplexflowphenomena ina virtualenvironmentcan significantly enhance the learning experience.Such a visualization tool allows the student toperform open-ended analyses and explore cause-effectrelationships.Computationalfluiddynamics(CFD) bringsthesebenefitsintothelearningenvironmentforfluidmechanics.	A student completing the course is able to: solvehydrostaticproblems. • describethephysicalpropertiesofafluid. • calculatethepressuredistributionforincompressiblefluids. • calculatethehydrostaticpressureandforceonplaneandcurved surfaces. • demonstratetheapplicationpointofhydrostatic forces on plane and curvedsurfaces. • formulatetheproblemsonbuoyancyandsolve them. describethemotionoffluids. • describetheprinciplesofmotionforfluids.

			• describe the areasofvelocityandacceleration. • formulatethemotionoffluidelement. • identifyderivationofbasicequationsoffluidmechanicsandapply • identifyhowtoderivebasicequationsand knowtherelatedassumptions. • applytheequationoftheconservationofmass. • applytheequationoftheconservationof momentum • applytheequationoftheconservationofenergy. • makedimensionalanalysisandsimilitude. • use the dimensionalanalysis and derivethe dimensionless numbers apply the similitude concept and set uptherelationbetweenamodelandaprototype.
MTC401	Numerical Analysis-II	To design and analysis of techniques to give approximate but accurate solutions to hard problems, the variety of which is suggested by the following: Advanced numerical methods are essential in making numerical weather prediction feasible.	Student can Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and non linear equations, and the solution of differential equations. Analyse and evaluate the accuracy of common numerical methods.
MTC402	Number Theory and Crptography-II	• To discover interesting and unexpected relationships between different sorts of numbers and to prove that these relationships are true. • To understand fundamental number theoretic algorithms such as the Euclidean algorithm, the Chinese Remainder algorithm, binary powering, and algorithms for integer arithmetic. • To understand fundamental algorithms for symmetric key and public-key cryptography. • To understand the number-theoretic foundations of modern cryptography andthe principles	• To implement and analyze cryptographic and number-theoretic algorithms. • To be able to use Maple to explore mathematical concepts and theorems.

		behind their security.	
MTC403	Computational Fluid Dynamics-II	The objective of CFD is to model the continuous fluids with Partial Differential Equations (PDEs) and discretize PDEs into an algebra problem (Taylor series), solve it, validate it and achieve simulation based design.	Thestudentwillhaveknowledge on:- Classificationofthebasicequationsoffluiddynamics.- Basicspaceandtime discretization methods.-Numericalsolution of advection, diffusion andstationaryproblems.- Numericalsolutionofconservationlaws.-Analysisofaccuracy and stability of finite differencemethods for model equations. Skills:After completion of this course, thestudent will have skills on: - Practical useand programming of numerical methodsin fluid dynamics.-Checking andassessing the accuracy of numericalresults. - Assessing the efficiency ofnumericalmethods.-Consistencyanalysis and von Neumann stabilityanalysisoffinitedifferencemethods.- Choosingappropriate boundaryconditions for model problems. Generalcompetence: After completion of thiscourse, the student will have generalcompetence on: - Numerical solution ofmodelproblemsinfluid dynamics.-Checking and assessing basic numericalmethodsforfluidflowproblems.

Government Autonomous College Angul

Department: ODIA

Programme Name: BA IN ODIA (UG)

COURSE OUTCOME

Core Paper	Course Name	Thrust Area/Objective	Outcome

CC-01	History of Ancient Odia Literature	9^{th} to 15^{th} Century Odia literature	• Introduction to 9^{th} to 15^{th} Century Odia literature
CC-02	Medieval Odia Literature	Medieval Odia literary trend and Cultural aspects.	• Knowledge on medieval Odia literary trend and Cultural aspects.
CC-03	Modern Odia Literature	Renaissance and Modern Odia literature	• Renaissance and Modern Odia literature. • Nationalist and Progressive trend in Odia Literature
CC-04	Post-modern Odia literature	Post-modern trend in Odia literature	• Trend in Odia poetry in Post-independent time. • Post-modern trend in Biography, Autobiography
CC-05	Evolution of Odia Language and Scripts	History of Odia Language	• Origin and Development of Odia Language. • Evolution of Odia script, Inscriptions and Odia Language.
CC-06	Meaning and Scope of Language, Importance and different aspects of Odia language.	Language, Origin of Language and important aspects of Odia language	• Definition and Scope of Language. • Origin Theory of Language. • Influence on Odia language.
CC-07	Applied Odia Grammar	Syntax, Inflection, Lexicon	• Odia Alphabets, Type of sentences. • Derivation and study of words.
CC-08	Odia Folk Culture and Folklore	Folk Culture and Folklore	• Theory of Folk Literature • Types and different aspects of Folk Literature.
CC-09	Literary Theory (Eastern and Western)	Literary Theory	• Introduction to Eastern Literary Theory. • Introduction to western Literary Theory.
CC-10	Odia Poetry(Ancient and Modern)	Sarala Das, Jagannath Das, Dinakrushna Das, Upendra Bhanja, Radhanath Roy, Gangadhar Meher, Gopabandhu Das, Sachi Routray	• Knowledge on Classical Odia Poetry. • Knowledge on notable Modern poetry.
CC-11	Odia Drama and One-act-Play	Modern Drama	• Introduction to the pioneer drama and dramatist. • Experimental Odia one-act-play.

CC-12	Odia Fiction	Modern Fiction	• Origin and Development of modern Odia fiction. • Trendsetting important Odia fictions.
CC-13	Odia Prose Literature	Biography, Autobiography, Travelogue, Essays	• Meaning and scope of Autobiography, travelogue and criticism. • Important Odia travelogue and autobiography.
CC-14	Applications of Odia Language	Speech, Interview, News Editing ,Reporting, Feature writing, Advertisement Writing, Official writing, noting and Drafting, Computerization of Odia language, Internet, Social websites etc.	• Application of Odia language in various fields. • Implementation of Odia language in Official work. • Computerization of Odia Language. • Odia Language in Social website.
DSE-I	Cultural History of Odisha and Odia Literature	History, Culture, Rituals of Odia People	• Brief history of Odisha. • Cultural aspects and popular festivals of Odisha.
DSE-II	Odia Children Literature and Popular Science Literature	Children's and Science Literature	• Introduction to Children's literature of Odisha. • Introduction to popular science based literature.
DSE-III	Odia Poetry	Medieval and Modern Poetry	• Important classic poetry. • Important short stories.
DSE-IV	Project	Project writing and presentation	• Introduction to project writing and oral presentation.
GE-I	Mass Media and Advertisement	Various aspects of Media	• Meaning and scope of mass media. • Column, feature and application writing skill.
GE-II	Ancient, Medieval and Modern Literature	Important ancient stories and writers	• Important stories from ancient and medieval classics. • Introduction to modern writers and writings.
AECC	Mode and means of Communication,	News, Interview and Odia language	• Introduction to communicative Odia Language. • News editing, Interview and speech technique. • Introduction to Odia vocabulary.

Government Autonomous College Angul

Department: ODIA

Programme Name: MA IN ODIA (PG)

COURSE OUTCOME

Core Paper	Course Name	Thrust Area/Objective	Outcome
P-1.1	Mythology and Ancient Odia poetry	Ancient Odia poetry and Culture of Odisha	* Introduction to classical epics. *Knowledge on Ancient Odia poetry
P-1.2	Modern Poetry	Modern Odia Poetry and literary theory	*Introduction to Modern Odia poetry. *Aspects of ancient Literary theory. *Ancient Poetry.
P-1.3	Odia Prose and Fiction	Fiction on Social and Cultural aspects of Odisha	*Introduction to classic odia prose. *Knowledge on fiction and short stories.
P-1.4	Prose Literature	Biography and Travelogue	*Introduction to notable Autobiography. *Notable Odia travelogue.
P-2.1	Linguistics	Origin ofLanguage , Vocal Organ	*Origin and evolution of language. *Importance of vocal organ. *Language family and influence of other languages on Odia.
P-2.2	History of Odia Literature	Ancient, Medieval and Modern	*Pre-Sarala Odia literature.

		litterateurs	*Medieval literature.
P-2.3	Odia Drama	Pre and post-independent drama	*Evolution of Odia drama. *Knowledge Notable Experimental drama.
P-2.4	Comparative Literature, Theory of Criticism, Translation study	Theory of criticism, Translation Studies	*Meaning and Scope of comparative literature. *Introduction to translation studies.
P-3.1	Linguistics – I	Different aspects of Language , Phoneme, Vocal organ, IPA	*Different aspects of Linguistics. *Speech sounds and speech organ. *Phoneme and IPA.
P-3.2	Linguistics-II	Phonemes Law, Morphology, Stylistics, History of Linguistics	• Phonetic laws. • Syntactic and semantic analysis of language. • Nature of speech sound and Stylistics. • History of linguistics.
P-3.3	Stage and Dramaturgy	Theory of Drama, Stage Management, Different trends in Drama	• Origin and development of Drama. • Different aspects of stage and Dramaturgy. • Different trends in drama.
P-3.4	Drama and Dramatist	Pre & Post-Independent and Contemporary trends in drama.	• Development of modern odia drama. • Notable Odia dramatist. • Current trend in Odia drama.
P-3.5	Modern Odia Poetry	Application of different eastern and western poetic aspects in Odia poetry.	• Trends in Odia poetry. • Notable modern poets of Odisha. • Post modern odia poetry.
P-3.6	Modern Odia Prose	Essay, Short Story, Fiction, Biography, Autobiography and Travelogue	• Different theory and aspects of Prose. • Important essays, novels and short stories. • Important essayist, novelist and short story writers.
P-4.1	Folk Literature	Theory and application of Folk	• Meaning, scope and different aspects of folk literature. • Motif, types and morphology.

		Literature, Motif, Types and morphology	• Applications of Folk literature.
P-4.2	Research Methodology	Meaning and scope of research, Field Study, Data collection and analysis.	• Meaning, scope and types of research. • Tradition, different aspects and stages of research. • Data collection, analysis, field study etc.
P-4.3	Dissertation	Research work as a part of implementing research Methodology	• Application and experiment of research methodology.
P-4.4	Seminar Presentation with Viva	Oral presentation Skill	• Seminar preparation skill and oral presentation practice.

Government Autonomous College Angul

Department: Philosophy

Programme Name: UG

COURSE OUTCOME

COURSE CODE	COURSE NAME	COURSE OUTCOME	THRUST AREA
CC 1	GENERAL PHILOSOPHY	Students are introduced to Philosophy as a discipline, its nature, scope and method.	Philosophy in general
CC 2	LOGIC AND SCIENTIFIC METHOD	Students will know about the science of Logic, rules of valid arguments, fallacies arising out of violation of the rules. This will develop in the students the skill of reasoning and testing the validity of arguments.	Logic – Deductive and Inductive reasoning

CC 3	SYSTEMS OF INDIAN PHILOSOPHY-1	Students are introduced to and taught about the systems of Indian philosophy, their scope and method.	Indian Epistemology and Metaphysics
CC 4	SYMBOLIC LOGIC	Students will learn about the modern developments in Symbolic Logic.	Mathematical logic
CC 5	ETHICS	Students will learn the different theories of Ethics, Theories of Punishment. This will give them an overall critical idea of the ethical schools available in the Philosophical tradition.	Moral Philosophy
CC 6	HISTORY OF GREEK PHILOSOPHY	Students will learn about history and development of Greek philosophy.	Greek Philosophy
CC 7	SYSTEMS OF INDIAN PHILOSOPHY- II	Students will learn about the systems of Indian Philosophy.	Indian Metaphysics and Epistemology
CC 8	CONTEMPORARY INDIAN PHILOSOPHY	Students will learn about the modern developments in Indian philosophical thought and their practical impact on Indian society and culture.	20^{th} century Indian Philosophical thoughts
CC 9	HISTORY OF MODERN EUROPEAN PHILOSOPHY	Students will learn about the schools of Modern European Philosophy. This will enable them to compare and contrast the European systems with Indian systems.	Modern European Philosophical schools – Epistemology and Metaphysics
CC 10	PHILOSOPHY OF LANGUAGE	Students will know the various uses of languages, the logic and semantics of	Linguistic Philosophy

		language and learn about the logical analysis of language.	
CC 11	WESTWRN CLASSICS: MEDITATIONS OF RENE DESCARTES	Students will have a firsthand reading of an original western classic and learn the skills of interpretation of a Philosophical text.	Philosophical Classic
CC 12	INDIAN TEXT: ISA UPANISAD	Students will have the scope of reading and understanding the original Upanisadic text and learn the skills of interpretation.	Philosophical Classic
CC 13	SOCIAL AND POLITICAL PHILOSOPHYY	Students will learn about the various social and political ideas and ideals and their practical impact on the society.	Social and Political Philosophy
CC 14	APPLIED ETHICS	Students will be introduced to a modern development in the field of Ethics which has a high practical relevance.	Practical Ethics
DSE-1	PHILOSOPHY OF BHAGAVADGITA	Students will have the privilege of learning about the philosophy of Bhagavadgita, study it from a critical and philosophical angle.	Philosophy of the Bhagavadgita
DSE-2	PHILOSOPHY OF RELIGION	Students will learn how to critically analyse the fundamental concepts involved in theology and try to understand their logic and semantics.	Linguistic philosophy specially applied to theological concepts and theories.
DSE-3	GANDHIAN	Students will study in detail the various	Philosophy of Gandhi

	STUDIES	aspects of the philosophy of Gandhi, their practical application and relevance to the modern world	
DSE-4	RECENT WESTERN PHILOSOPHY	Students will be introduced to the trends in German, French and American philosophy.	Western philosophy
	PROJECT	The students will have an idea of preparing a dissertation by consulting books, journals and other available materials.	
GE-1	SYMBOLIC LOGIC	Same as CC-4	
GE-2	INDIAN PHILOSOPHY	Same as CC-3 & CC-7	

Government Autonomous College Angul

Department:_____Post Graduate Department of Physics

Programme Name: UG Physics (Honours)

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
I	Mathematical Physics-I	Students will understand the concepts of calculus and vector operation to solve various problems in physics.	1. To gain the knowledge of the basics of calculus. 2. To understand vector operation. 3. To study orthogonal curvilinear coordinate system. 4. To apply the knowledge of vector calculus.
II	Mechanics	To understand and apply the concepts of laws of	1. To study rotational dynamics. 2. To remember and understand the ideas of elasticity.

		motion to solve physics problems.	3. To study the laws of grivation and calculation of central force problems. 4. To apply the knowledge of oscillation and to study special theory of relativity.
III	Electricity and Magnetism	To understand the laws of electricity and magnetism and apply the concepts to solve problems.	1. To understand the concept of electric potential and apply the concept to solve image problems. 2. To study the origin of magnetic fields due to different current elements. 3. To study dielectric properties of matter and study electromagnetic induction. 4. Apply the knowledge of alternating current to various circuits.
IV	Waves and Optics	Students will understand the nature of light through interference and diffraction.	1. To remember the application of geometrical optics. 2. To understand various types of wave motion and application. 3. To understand the interference nature of light and experiments. 4. To study diffractions and its related experiments.
V	Mathematical Physics-II	To students will implement the ideas of Fourier series and differential equation to solve various problems in physics.	1. To study the properties of Fourier series and its application. 2. To understand the roles of various special polynomials in physics and its application. 3. To explore different polynomials and different integral problems. 4. To understand and apply differential equations.
VI	Thermal Physics	Students will understand the ideas of thermostatics, thermodynamics, and its laws with application.	1. To remember various laws of thermodynamics. 2. To study various thermodynamics potentials, phase transition and maxwells relation. 3. To understand the transport phenomena in gas. 4. To explore the properties of real gases.
VII	Analog Systems and Applications	Students will study the semiconduction device and its properties for application in physics.	1. To study pn junction diode and its properties. 2. To understand transistor and its properties. 3. To explore different types of amplifiers. 4. To implement the concepts of OPAM in various applications.

VIII	Mathematical Physics III	To solve various physics problems trough integral transform and complex analysis.	1. To understand complex numbers and complex theory. 2. To study the properties of Fourier transform. 3. To apply the concepts of Fourier, transform in physics problem. 4. To apply the concepts of Laplace transform to solve differentials equations in physics.
IX	Elements of Modern Physics	Students will study the developments in modern physics and application.	1. To study the various models of atom. 2. To understand wave particle duality and its related experiments. 3. To understand basic properties of nucleus. 4. To explore the concepts of radioactivity and nuclear reactions.
X	Digital Systems and Applications	Students will understand digital system circuits and its application.	1. To remember integrated circuits and digital circuits. 2. Understand the concepts of Boolean algebra and CRO. 3. To explore data processing circuits and timers. 4. To introduce the concepts of computer architecture and counters.
XI	Quantum Mechanics and Application	Students will understand the concept of quantum mechanics, operators and its application in various quantum physics problems.	1. Students will understand Schrodinger equation and its properties. 2. To study the concepts of operators and their properties. 3. To apply the Schrodinger equation to various one-dimensional potential problems. 4. To understand the problems like atoms under the effect of electric field and magnetic field.
XII	Solid State Physics	Students will understand crystal structure and the application of quantum mechanics to solid state physics.	1. To study crystal structure and X-ray diffraction. 2. To understand phonon and magnetic properties in solid. 3. To explore dielectric properties and understand LASER. 4. To apply the concepts of quantum mechanics to solid to understand band structure.
XIII	Electro-magnetic Theory	Students will understand the application of Maxwell's equation to understand electromagnetic waves in	1. To understand differential and integral form of maxwell equation and gauge transformation.

		different mediums and the concept of polarization.	2. To study em wave motion in unbounded media. 3. To understand em wave motion in bounded media and concept of Fresnel equations. 4. To understand polarization of em wave and its application.
XIV	Statistical Mechanics	To understand classical and quantum statistical mechanics.	1. To remember classical statistical mechanics and types of ensemble. 2. To study Gibb's paradox and Sakur-Tetrode Equations. 3. To understand quantum statistics and its properties. 4. To study theory of radiation to understand various experiments like blackbody radiation.

Government Autonomous College Angul

Department:__Post Graduate Department of Physics

Programme Name: PG Physics

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Core	Classical Mechanics	To study classical mechanics and solve the problems in physics.	Students will be able to: 1. Know the physical concepts and am familiar with classical mechanics and its mathematical form. 2. Solving problems of different systems using classical mechanics. 3. To demonstrate the knowledge and understanding of the following fundamental concepts in: The dynamics of system of particles, Motion of rigid body, Lagrangian and Hamiltonian formulation of mechanics Transformations and Hamilton Jacobi theory Small oscillation problems 4. Develop equations of motion using Lagrangian and Hamiltonian formulation for complicated mechanical systems.

Core	Mathematical Methods in Physics	To study mathematical tool to solve physical problems.	1. It will provide students with basic skills necessary for the application of mathematical methods in physics. 2. Introduction of various existing mathematical methods in order to analyses theories, methods and interpretations. 3. Develop understanding among the students how to use methods within his/her field of study of research and in the field of scientific knowledge to work independently.
Core	Quantum Mechanics	To understand the concept of quantum mechanics to solve physics problems.	Students will be able to: 1. Study postulates and formalism of quantum mechanics 2. Study operator formulation of quantum mechanics 3. Study time evolution of a state and operator and apply Schrodinger equation to 1D harmonic oscillator. 4. Study operator algebra of orbital angular momentum and spin angular momentum operator. 5. Study motion in spherical symmetric potential and apply Schrodinger equation to solve hydrogen
Core	Computational Methods in Physics	To learn computer programs to solve physics problems.	Students will be able to: 1. To learn computer programming using FORTRAN 90 and C, 2. To solve physics problems through different numerical techniques 3. Use computer programming for simulation and data analysis
Core	Quantum Mechanics-II(Application to Atomic and Molecular Physics)	To apply the concept of quantum mechanics to solve advanced physics problem	Students will be able to: 1. Understand the importance of perturbation theory in quantum mechanics. 2. Study time independent and time dependent perturbation theory and apply those to various physical problem 3. Understand fine structure of hydrogen atom, Stark effect, Zeeman effect, 4. Understand interaction of radiation with matter, selection rules 5. Understand quantum mechanical description of scattering. 6. Understand variational principle and its application
Core	Classical Electrodynamics	To apply the concepts of electro dynamics to solve physics	Students will be able to: 1. Study the Maxwell's wave equation in different dielectric media and free space

		problems.	2. Understand vector and scalar potential and their importance in electromagnetics 3. Study electromagnetic energy transport and Poynting vector 4. Understand Lorentz and Coulomb gauge conditions, covariant form of Maxwell's equation. 5. Study laws of geometrical optics using Maxwell's equation 6. Study Kramer Kronig relation on reflection and absorption of electromagnetic wave 7. Study and understand propagation of electromagnetic waves in different types of waveguides. 8. Study of retarded potential and solving it by Green's Function techniques for different types of charge distributions 9. Study electric, magnetic dipole and quadrupole radiation 10. Study electromagnetic radiation due to moving point charge and accelerated charge
Core	Basic Condensed Matter Physics	To apply the concept of quantum mechanics to solve problems in solid state physics.	Students will be able to: 1. Know the diffraction condition in reciprocal space. 2. Understand the crystal bonding types in solid. 3. Understand the specific heat of solid and metals. 4. Know Kramer Kronig-penny model of electron ion interaction. 5. Know the properties of semiconductor materials. 6. Know the properties of superconductor and high Tc superconductor
Core	Modern Physics and Optics/Computational Methods in Physics	To understand optics phenomena it application.	1. To analyze various situations or phenomena associated with modern physics and optics physics using basic principles. 2. This course will introduce the student to a broad range of physical phenomena involving optics, and modern physics.
Core	Advanced Quantum Mechanics	To study advanced quantum mechanical problems.	1. Understand the importance Covariant form 2. Understand Klein-Gordon equation, Dirac equation in relativistic quantum mechanics 3. Understand Lagrangian and Hamiltonian Formulations, Noether's theorem

			4. Understand Quantization of free fields
Core	Electronics	To understand the electronic circuits and its application in digital electronics.	1. Understand Different type of Amplifiers using Hybrid parameters 2. Understand operational principle, model and analysis of various operational amplifiers 3. Understand operation model and analysis of various oscillators 4. Understand the working, model and analysis of various digital circuits 5. Understand model and analysis of radio communication and antenna 6. Understand working principles of fiber optics
Core	Basic Nuclear and Particle Physics	To understand the concepts of nuclear physics an d its application.	1. The students gather advanced knowledge in Nuclear physics. 2. The different nuclear interactions and the corresponding nuclear potentials and its dependence on the couplings are learned. 3. The knowledge helps to choose for an Advance course in Nuclear and particle Physics.
Core	Statistical Mechanics	To study problems on advanced statistical mechanics and it applications in phase transition.	1. Understand postulates of classical and quantum statistical mechanics 2. Study different formalism of statistical physics such as microstate, macrostate and ensembles 3. Understand Boltzmann and Gibb's interpretation of entropy. 4. Study Fermi-Dirac statistics and Bose-Einstein statistics 5. Understand phase transitions and Ising model to study ferromagnetism

Government College (Auto), Angul

Department: POLITICAL SCIENCE

Programme Name: UG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Core 1	Understanding Political Theory	To help students toacquire the idea of political theory , ideas and practice related to democracy	After completion of the Core-1, Students are known about history and approaches along with trends of political theory.
Core 2	Constitutional Govt. & Democracy in India	To acquaint the students with basic concept of the constitution design of the State structure, institution and their actual working.	The Students are known about the Constitutional design, its provisions, State structure and institution and their actual working in India

Core 3	Political Theory concepts & debates	To impart the basic knowledge of the theoretical concept of political science.	The Students are familiarized with the basic normative concepts of political theory, critical & reflexive analysis and interpretation of social practice.
Core 4	Political Process in India	This core focuses on the challenges faced by India Democracy , political parties of India and the election Commission.	The Students are able to know about actual politics in India, Political Process, actual working at the Indian State.
Core 5	Introduction to cooperative Govt. & politics	To provide the basic knowledge of comparative politics.	The Students familiarized the basic concept approaches to the study of cooperative politics and various themes of cooperative analysis in developed and developing countries.
Core 6	Introduction to Public Administration	This course provides an introduction to the discipline of public administration, some recent trends including feminism and ecological conversations.	The Students are known about historical & context of Public Administration, classical & contemporary theories, ecological conservatism.
Core 7	Perspective on International Relations	To help students to acquire the idea of theoretical approaches for studying international relations , major political development in 20th century including world wars and cold wars.	The Students are known about historical evolution of International Relations, World wars, collapse of USSR, Euro-centrism & Global South.
Core 8	Political process and Institutions in comparative perspective	To impart the students about comparative methods to study in politics , state its evolution on European context , democracy and federation	The Students are known about the application comparative methods to study of politics, nation State System, Federalism.
Core 9	Public policy & Administration in India	This course focuses on the interface between public policy and administration in India and social welfare administration.	The Students are known about Interface Public Policy & Administration, Budget, Social welfare policy, Urban local Government & Redressal of public Grievances.
Core 10	Global Politics	To help students to know about key debates of globalisation , ecology issues , international terrorism, global economy, nuclear proliferation and migration	The Students are known about the Globalization and its impacts, climate change, International terrorism, migration & human security.
Core 11	Western Political Philosophy	This course provides the knowledge about ancient as well as modern thinkers and their philosophy	The Students familiarized Western ancient political philosophers along with modern political philosophers like Plato, Aristotle, Hobbes, Locks.
Core 12	Traditions of pre-colonial Indian Political Thought	To impart the basic knowledge of pre-colonial political thoughts , Buddhist thought and mediaeval political thoughts of India	The Students know about various modern India thinkers, Indians and their ideas, various social, economic political reforms.

Core 13	Contemporary Political Philosophy	This course gives knowledge about politics and philosophy closely intertwined and contemporary political philosophy and their debates .	The Students are able to know the modern philosophers like Lenin, Marx, Gramsci, Rawls and their philosophy.
Core 14	Modern Indian Political Thought	To provide the knowledge about modern Indian thinkers and their contributions	The Students knew about various modern India thinkers, Indians and their ideas, various social, economic political reforms.
DSE 1	Introduction to Human Rights	This course gives knowledge about human rights of India , South Africa , International Refugee law and International humanitarian law .	The Students knew about the Human Rights, Refugee law and Rights of South Africa & India.
DSE 2	Development process and Social Movements in Contemporary India	To acquaint the students with various social movements , land reforms, green revolution, women's movements .	The Students knew about merits and demerits of Globalization, Tribal Movement, Dalit Movement, Women's Movement etc.
DSE 3	India's Foreign Policy in Changing World	This objective of this course is to teach students the domestic sources and the structural constraints on the genesis, evolution and practice of India's foreign policy	The Students knew about evolution of foreign policy, India's relation with super power during cold war, bargaining strategy, India's role as a Global power after Independence,
DSE 4	Research Project/ Dissertation	To impart the basic knowledge of how to conduct the research	The Students knew about research work. They are better off in understanding published works and discovered their passion for research.
GE 1 & 3	Gandhi and the Contemporary World	This course gives knowledge about Gandhi ji as a global frame , dispersed about Gandhi and thought and examine its practical implications.	The Students knew about Gandhian thought and Philosophy and its influence all over the World.
GE 2 & 4	United Nations & Global Conflict	The course focuses on UNO and its organs measure global conflict since sending world war and reforms of UNO	The Students knew about the International Organization (UNO) and its organs, its reforms and major Global conflicts.

Government College (Auto), Angul

Department: POLITICAL SCIENCE

Programme Name: PG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Paper-1	Comparative	It imparts the knowledge about comparative	The Students knew about the application of comparative methods to the

	Politics:Concepts and Models	politics, David Estonestheory , constitutionalism and elite theory.	study of politics, behavioralism, constitutionalism, structural-functional approach & Elite theory.
Paper-2	Administrative Theory: Principles and approaches	This theory focuses on public administration theory of organization, administrative management and concepts of public administration.	The Students knew about the Public Administration, Theories of Organization, concepts of Public Administration and Administrative Management.
Paper-3	International Relations: Major concepts and theories	It gives knowledge about theory and approaches of international relations , National interest, International terrorism and conflict resolution.	The Students knew about the subjects like International Relations, Theories of Deterrence, Arms control along with Contemporary Global issues.
Paper-4	Contemporary Political Theory	This course focuses on nature and scope of political theory, theory of Democracy, Theory of Justice , Civil Society , NGO and self help groups.	The Students knew about the Decline and resurgence of political theory, models of Democracy, Rawls Theory of justice, Civil Society, NGO and Self Help Group.
Paper-5	Political Ideologies	To acquaint the students about political ideologies like liberalism, feminism, socialism, modernism and multi-culturalism.	The Students knew about the different types of Political Ideologies like Maxism, Feminism, Modernism, Multiculturalism and Environmentalism.
Paper-6	Comparative Political Process	This course focuses on comparative study in development of underdeveloped Nations , political parties, pressure groups , political change and public policy .	The Students knew about the Comparative Politics, different Social Movements, Revolutions, Political Parties, Pressure Groups and Policy formulation, implementation and evaluation.
Paper-7	Public Administration and Management	It gives knowledge about budget, major issues in administration, civil service conduct and new trends of Public Administration.	The Students knew about the Budget, Relation between Political and Permanent Executive Civil Service conduct, Good Governance Citizens charter, E-Governance
Paper-8	Global Politics:Contemporary Challenges and Issues	To acquaint the students about global politics, contemporary global concerns, UNO and Human Rights.	The Students knew about the Cold War, Functionalism, Global Environmental Issues, Role of United Nation in peace & Security and Human Rights.
Paper-9	Contemporary Debates in Political Theory	It provides the knowledge about contemporary debates on maxism ,role of ideologies and theory of change .	The Students knew about the Marxism, End of Ideology, Ideology of Lenin, Mao and Gandhi.
Paper-10	Political Sociology: Concepts and Issues	It imparts the basic knowledge about sociological ideas and views of sociological thinkers.	The Students knew about the Ideas of Karlmarx, Max Weber, Emile Durkheim, Talcott Persons, Elite Theories, Political communication, Social change and Social Conflicts.
Paper-11	Research Methodology and Statistical Methods	To acquaint the students with research methodology , research design , survey methods, data analysis and basic statistical techniques.	The Students knew about the objective of Research, Research Methods, Types of Research, Survey methods, Data analysis, Sampling and Basic Statistical techniques.

Paper-12	Contemporary International Studies: Concepts and Challenges	This course gives knowledge about globalization , inter-paradisdm debates , post positivist approaches , alternative perspectives on security and political economy of international relations.	The Students knew about the Globalization and its Challenges, Liberalism, Post-positivist approaches, Environmental Security, Political Economy and International Relations, Dependency Theory, New Imperialism Debate.
Paper-13	Indian Government and Policies: Processes	To impart the knowledge about Indian Government and its working , political parties, electoral system and pressure groups .	The Students knew about the Indian Parliament and its working, Supreme Court, Nature of Party system and coalition Politics, Electoral Reforms, Pressure Groups and their action
Paper-14	Working of Democracy in India	This course focuses on Democracy of India , The Grass roots of Democracy and the challenges of Democracy.	The Students knew about the Historical overview of Democracy, Rural and Urban Local Self Government, Challenges and Performance of Democracy.
Paper-15	India: Regional and International Organizations	It gives knowledge about UNO, roll of India and various International Organizations.	The Students knew about the Role of India in the UNO, India and SAARC, India and BRICS, India and European Union and India and ASEAN.
Paper-16	Western Political Thought	It imparts the knowledge about Western political philosophers and their thoughts from ancient to modern.	The Students knew about the Ancient Greek Philosopher like Plato, Aristotle, Mediaval Philosophers like Hobbes, Locke, Rousseaus, Modern Philosophers like Hegel, J.S. Mill, Marx, Gramsci, Arendt and Rawls.
Paper-17	Indian Political Ideas	This course focuses on the ancient political thinkers, social reformers, freedom fighters and their contributions.	The Students knew about the Ancient Indian Philosophers like Manu, Kautilya, Social Reformers like Dayananda Saraswati, Raja Ram Mohan Ray, Freedom Fighters like Gokhle Tilak, Jawaharlal Neheru, B.R. Ambedkar, Mahatma Gandhi and M.N. Roy.
Paper-18	Society and Polity in India	It discusses about the Society and elements , social change in India , Social moments , new challenge in Indian Democracy.	The Students knew about the Diversity of Indian Society, Caste, Class, Reservation Issues, Social Change, Women Movements, Tribal Movements, State and Globalization, Challenges of Democracy in India.
Paper-19	State and Local Administration in India with special reference to Odisha	To impart the Administration of Odisha , Urban and Rural local Government and Odisha Secretariat .	The Students knew about the Administration of Odisha, RDC, BDO, Board of Revenue- State Secretariat, Panchayat Raj of Odisha, Urban Local Government of Odisha, Minister, Chief Minister and Governor of Odisha.
Paper-20	Dissertation/ Project work	To help students to acquire the knowledge of research work , to make students learn the methods of writing a Research Report.	The Students knew about Research work. They are better off in understanding published works and discovered their passion for research.

Government Autonomous College Angul

Department:___Sanskrit

Programme Name: ___UG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Core-1	Moral teachings and basics of Sanskrit		# To impart moral lessons to students # To give the students an idea of Shavdarupa and Dhaturupa
Core-2	Drama-1 and History of Sanskrit Literature		# To introduce the students to seminal texts in Sanskrit literature # To create awareness about the History of Sanskrit Literature
Core-3	Drama-2 and Dramaturgy		# to teach seminal texts in Sanskrit # To teach students the theory and practice of dramatic composition
Core-4	An introduction to the techniques of Paninian Grammar and Prosody		# To teach Paninian grammar and related concepts
Core-5	Poetry and History of Sanskrit Literature		# To introduce students to the classical texts in Sanskrit # To teach students the history of Sanskrit literature
Core-6	Meta-rules of Paninian grammar, poetics, and Figures of Speech		# To increase knowledge of Paninian grammar # To impart knowledge of figures of speech that are like ornaments to the language
Core-7	Cases and Case endings in Paninian Grammar and translation		# Thorough discussion of Paninian grammar # Provide practical knowledge to students by translating sentences from Sanskrit to Odia and English

Core-8	Upanishad, Ramayan, and Bhagavadgita		# To discuss with students the canonical texts in Sanskrit literature # Study of Ramayan and Bhagavadgita
Core-9	Case and case endings of Paninian Grammar, Translation-II and Lexicon		# To strengthen the knowledge of Paninian Grammar # To provide practical knowledge by promoting translation from Sanskrit to Odia and English
Core-10	Ornate prose in classical Sanskrit		# Expose students to ornate prose style # Discuss the features of ornate prose
Core-11	Ornate poetry in classical Sanskrit		# Expose students to ornate poetry style # Discuss the features of ornate prose
Core-12	Veda, Vedic grammar, and History of Vedic literature		# Expose students to the Vedic Shuktas # To teach them the History of Vedic Literature
Core-13	Ayruveda and Vrksayurveda		# To expose students to Charakasamhita And Vrksayurveda
Core-14	Technical literature in Sanskrit		# To teach students the importance of Jyotisha and Vastu as technical literature
DSE-1	Socio-political thought in Ancient India		# To teach students some seminal concepts of Arthashastra and Dharmashastra
DSE-2	Ethical Literature in Sanskrit		# Contribute to creation of moral and ethical human beings by the teaching of Canakyaniti and Nitisataka of Bhartrhari

DSE-3	Translation, Editing and Writing Skill		# Provide practical training to students
DSE-4	Preparation and presentation of Project		# Practical knowledge of research in Sanskrit literature
GE-1	Khandakavya and Darsana-kavya		# Create an interest in Sanskrit literature # Bhagavadgita chapter XV talks about the yoga of the Supreme person
GE-2	Moral teaching and the Basics of Sanskrit		# Aims at creating morally upright human beings by teaching Hitapodesha, Yaksaprasna # Basic concepts of Sanskrit like Savdarupa and Dhaturupa

Government Autonomous College Angul

Department:___Sanskrit

Programme Name: ___PG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Hard Core paper-1	Sans-1.1.1	Vedic Language and Literature	# Knowledge of Hymns from Rgveda, Atharvaveda, Ishavasyopanisad, Kenopanisad # Exposure to ancient Sanskrit literature
Hard Core paper-2	Sans-1.1.2	Grammar 9 Sidhanta-kaumudi)	# Grammatical knowledge of Samjna, paribhasa, Sandhi, Samasa, Karaka strengthened

Hard Core paper-3	Sans-1.1.3	Systems of Indian Philosophy-1	# Concepts of Samkhya-karika, Vedantasara, Pratyabhijna-darshana introduced and discussed increasing students' acquaintance with them.
Hard Core paper-4	Sans-1.1.4	Poetics-1	# To introduce students to concepts of Natyasashtra, Dhvanyaloka, Sahityadarpana # Knowledge of Alamkaras increased.
Hard Core Paper-5	Sans-1.1.5	Indian Culture and History	# Study philosophies of Charvaka, Buddha, Jaina # To be informed about Indian art of dancing, music, theatre, drawing, sculpture
Hard core paper-6	Sans-1.2.6	Ancilliary Vedic Literature	# Students will have knowledge of Samjnas such as Samanaksara, Sandhyaksara, rakta, Aksara, Aghosa etc. # Adequate knowledge of Rgveda-bhasya-bhumika of Sayanacarya
Hard core paper-7	Sans-1.2.7	Grammar and Philology	# Concepts of Vaiyakarana Siddhanta Kaumudi # Knowledge of phonetics, phonology, semantics, syntax and Morphology
Hard core paper-8	Sans-1.2.8	Systems of Indian Philosophy-II	# Knowledge of Tarka Samgraha strengthened # Information about Bauddha Darshana provided
Hard core	Sans-1.2.9	Sanskrit plays and Poetics	# To study ancient texts of Sanskrit plays like Mrcchakatikam and

paper-9			Uttara-rama-caritam
Hard core paper-10	Sans-1.2.10	Poetics and Play-II	# To study ancient texts of Sanskrit plays like
Hard core paper-11	Sans-1.2.11	Technical Literature	# Introduction to Manusmriti, Ayurveda, Vastu Vidya, Arthashastra
Hard core paper-12	Sans-1.2.12	Ancient Indian history, Culture and Epigraphy	# Sources of Indian history, Indus valley, Saraswati valley provide knowledge of Indian History # knowledge of temple architecture, rock edicts, inscriptions provide vital information about the rich architectural past of India.
Core Elective Paper-1	Sans 1.2.10	Prose, Poetry and Drama	# Increase familiarity with the seminal texts in Sanskrit literature
Core Elective Paper-2	Sans 1.2.11	Prosody and Poetics	# Enhance knowledge of Chandas # Information about different theories
Core Elective Paper-3	Sans 2.3.13	Kavya and Poetics	#Enhance knowledge of Kabya literature in Sanskrit
Core Elective Paper-4	Sans 2.4.18	Rasa and Dhvani texts	# To complete reading of Rasagangadhara and Dhvanyaloka # To gain knowledge of the contribution of authors of Odisha to Sanskrit poetry
Core Elective	Sans 2.4.19	Different schools of	# Provide information about the different schools of Kavyasastra

Paper-5		Kavyasastra	and their significance

Government Autonomous College Angul

Department:_ SOCIOLOGY

Programme Name: UG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Core -1	**Introduction to sociology -1**	**1. Get to know the convergence and divergence of sociology with other social science disciplines in terms of the subject matter, nature and Scope and generate ideas about the social processes and social institutions man encounters as the members of the society.**	**This paper is expected to clarify and broaden the students notion about the subject, the basic concepts used and some universal societal processes.**
Core-2	**Introduction to sociology -2**	**1. Develop knowledge about individual and society. and generate ideas about the social processes and social institutions.**	**Clarify and broaden the students notion about the subject and some universal societal processes.**
Core-3	**India society**	**Get to know about the basic composition of Indian society , it's historical moorings, basic philosophical foundations of the society and the institution.**	**To bring familiarity among the students. It is hoped that the structure and processes operative in the society, the change agents operating in Indian society.**

Core -4	**Sociology of Environment**	**1. Derive knowledge about the close interaction between society and environment, Accumulate ideas about the ideological currents, issues that drive environment movements. and get aware about the global and national efforts to conserve environment.**	**The very aim of this paper is to disseminate knowledge about the significance of environment for society, to change the practices that can protect and preserve the environment and to make the students participate in the mission to preserve, protect and promote the cause of environment.**
Core -5	**Classical sociological thinkers**	**Gain understanding of some of the classical contribution in sociology and their contemporary relevance**	**This paper is expected to clarify and broaden the students knowledge about the theoretical and methodological contributions of the classical contributers**
Core- 6	**Social change and development**	**1. Derive knowledge about the meaning, nature, forms and patterns of change. and get an impression about the factors that propel change in the society.**	**This paper is expected to provide a wholesome idea to the students about the process of social change.**
Core- 7	**Sociology of gender**	**Note the difference in gender roles, responsibilities, rights and relations. And assess the initiatives undertaken for gender development with the paradigm shift from time to time.**	**Generate ideas and sensitivity about gender in a student can put practices in daily life which will prevent biases and gender practices and create a gender neutral social world where both men and women can enjoy their rights.**
Core- 8	**Rural sociology**	**Generate an idea about the typicality of rural society and the institutions operating therein and their dynamics and derive ideas about rural social problems of the country.**	**Students can have a grip on the grassroots of Indian society.**
Core- 9	**Globalization and society**	**To get the nature of global world, it's positive and negative dimensions of globalisation.**	**This paper is expected to acquaint the students with the ongoing social processes which can bring tremendous changes in the nations.**

Core- 10	**Marriage, family and kinship**	**1. Understand the three institutions that are the foundations of the society . 2. Get to know the rules governing these institutions and estimate the changes coming over these institutions with the process of social change.**	**Expected to instill knowledge about the foundational institutions, their governing principles and the continuity and change features of these institutions.**
Core- 11	**Research methodology**	**1. Have a grip over the basic steps involved in social research and the types of social research with their applicability. 2. Develop an insight into the need and types of research design and the use of sampling method for attending objectivity and scientific study.**	**This paper is designed and incorporate to acquaint the students with the scientific ways of studying social phenomena. This provides them with research insight that will enable them to capture the most relevant data in an objective manner.**
Core- 12	**Social movements in India**	**1. To introduce the students to the role of social movements in social transformation. 2. Understand the various approaches to the study of social movements.**	**The very aim is to disseminate knowledge about the concept of social movements and its process and change making role in the society.**
Core-13	**Population and Society**	**1. Understand the various facets of population studies and the theories that depict population change, Develop specific idea on Indian population structure, policies adopted and programmes and launched in the country to check population. Assess the role of various agencies in population control**	**The very aim of this paper is to acquaint the students with a perennial problem of the Indian society that is population growth and the measures introduced to control it.**

Core-14	**Social Dis organisation and deviance**	**To Understand the meaning, causes, consequences and forms of social disorganization.** **2. Learn about the theories explaining the disorganization situations.** **3. Comprehend the concept of crime and the existing theories of punishment**	**This paper is designed with an expectation to impress upon a student on the concept of deviant behavior leading to social disorganization, forms, theoretical foundations and criminal activities which he encounters in real life situations**
DSE-1	**Sociology of health**	**1. Can get an insight on socio-cultural dimensions in the construction of illness and medical knowledge. 2 . Gain knowledge on medical pluralism for treatment of disease.**	**Can learn about the contemporary trend of Sociology of Health.**
DSE-2	**Sociology of education**	**1.understand relationship between education and Society. 2. Get insights on role of education in nation building. 3. Gain knowledge on constitutional provision and various education politicies**	**Students are expected to learn various perspectives on education. Knowledge on education policies and constitution provisions can prepare the students for the development of their own higher education.**
DSE-3	**Urban sociology**	**1. Develop knowledge about urban social institution and problems. 2. Gain insights into urban development plans, programmes and efforts.**	**Get insights into the basic features of an urban areas, major problems that encounter urban population**

DSE-4	**TRIBES OF INDIA**	**To provide a fair stock of knowledge to the students on the tribes and tribal life. To enable the students to understand the problems faced by the tribes, To give impression and knowledge on the tribal development plans, policies and programmes.**	**After going through this paper it is expected that the students will gain fair idea about the Indian tribes, their demography and distribution. They will be sensitized about tribal situations and the challenges faced by them today. Finally, they can get an account of the safeguards created for them through the Constitution, legislations and programmes and the changes noted in the tribal society of the country today**
DSE- 4	**Field work and dissertation**	**To provide basic exposure to the students to the fields and to acquaint him or her with the research process. To equip them with the capacity to browse secondary literature from right sources and with a process of reviewing relevant literature**	**After field work students gain far insights towards grassroot level knowledge each and every aspect of the society**

Government Autonomous College Angul

Department:_ SOCIOLOGY

Programme Name: PG

Course Outcome

Core Paper	Course Name	Thrust Area/Objective	Outcome
Core -1	SOCIOLOGICAL CONCEPTS	To have a preliminary understanding of any discipline, one needs to understand the context of its emergence and knowledge of the concepts used.	This paper would help the students have a preliminary idea of the discipline, its scope and nature and the themes that the discipline deals with
Core-2	PERSPECTIVES ON INDIAN SOCIETY	After going through the course the students can visualize the Indian society through sociological lens/imaginations developed by Indian sociologists.	They will get into a confluence of sociological universality and sociological specificity to a large extent.

Core-3	RESEARCH METHODS	To differentiate between sociological knowledge and common sense knowledge and the rise of critical thinking. • To understand the vantage point for a sociologist to understand social reality. • To understand different approaches for understanding social reality. • To learn different tools and techniques of social research	This paper would help students evolve as social scientists where they would learn the techniques of research and be employable

Core -4	CLASSICAL SOCIOLOGICAL TRADITION	. • To elaborate the seminal ideas of the thinkers who brought the subject to the forefronts of academic discussions. • To unfold before the students their vision of the social conditioning of various phenomena as envisioned and analysed by these thinkers and to provide them a perspective to look into the social processes and progress. • To en skill the students with a theoretical base to critically think, and analyse the social scenario around them.	After going through this paper, it is expected that the students will have a clear understanding of the ideas of the founding fathers of the subject, the theories built up by them to study the social phenomena and to get a macro perspective on the discipline.

Core -5	SOCIOLOGY OF TRIBES	This paper helps understand the diverse tribal distribution across the country and helps us learn that tribes do not make a monolithic structure. • It helps the students understand the culture, economy of the tribes and addresses the basic issues of the tribes	It helps students examine and understand the different nature of tribal lives across the nation.

Core- 6	SOCIOLOGY OF GLOBALIZATIO N	Giving a fair idea to the students on the meaning, features, dimensions of this process and its historicity. • Making them understand, the ideological currents that are shaping and the institutional transformations that are taking place under the process of globalisation. • Apprising the students with the consequences of globalisation on various groups of individuals and institutions of the society. • Generating a clear-cut impression about its recent courses and the new form it is taking.	After going through this paper, it is expected that the students will have a clear understanding of this continuing process of social change, its consequences and courses.

Core- 7	SOCIOLOGY OF CHANGE & DEVELOPMENT	To examine the different forms of change • To understand the different parameters to examine the global scenario in terms of development. • To study the different theories of development. • To understand the Indian experience of development.	This paper will enable students to understand the politics of development and underdevelopment, and understand how development can be quantified, theorized and explained globally.
Core- 8	ADVANCED SOCIOLOGICAL THEORIES	To understand the context and concerns of advanced social theories • Discuss the role of Functionalism, Neo-Functionalism, Structuralism, Post-structuralism, Neo Marxism, Phenomenology, Ethno-methodology & Symbolic Interactionism • Assess the role of context in the rise of social theory.	After reading this course the students can grasp the sociological and social theories for a comprehensive and critical understanding of social structure and social institution in the contemporary society.
Core- 9	VOLUNTARY SECTOR STUDIES	To understand the meaning, nature, types of voluntary sector • To know about its origin and growth • To examine its role	This paper enlightens the students about the emerging sector and its scope. This paper would give employment opportunity to students in the voluntary sector.

Core- 10	SOCIOLOGY OF HEALTH & GERENTOLOGY	The nature of Sociology of health and gerontology • The contribution of different scholars to the understanding of health and gerontology • Evolution of social medicine in India and the provision of health service in term of various programmes, contribution of health care providers and traditional healers in India • Strategies taken for the rehabilitation of the elderly through elderly homes, various NGOs	The students will be able to develop an understanding of the contribution of sociology in understanding the concept of health. • They will be able to define gerontology and understand its scope and significance. To develop awareness about the ways in which different organizations both national and international are involved in providing health services in India. • Develop an understanding about the strategies taken by different organizations in the resentment and rehabilitation of the elderly in India. • By providing an insight into the ways in which various voluntary organizations operate in India, the course provides a holistic picture of the health care scenario in the country.
Core- 11	URBAN SOCIOLOGY	To introduce the Scope and Approaches of Urban Sociology • To critically study the urban sociology theories • To analyze city type and functions in India • To understand the trends of India's contemporary urbanization pattern.	This course provides an exposure to key theoretical perspectives for understanding urban social life in historical and contemporary contexts. • Students will get an opportunity to define urban sociology and demonstrate the nature and scope of urban sociology. • Develop an understanding about the impacts and trends of urbanization on Indian society. • Develop awareness of urban problems as well as policies adopted to solve such problems.

Core- 12	APPLIED RESEARCH METHODOLOGY	Generating an understanding among the students about research, its types, designs to be adopted for various types of research and the ethics to be followed in research. • Providing ideas about the needs of reviewing literature, the techniques of reviewing, getting them acquainted with the various referencing styles. • Explaining and making them used to various types of research writing styles. • Allowing them to have experiential knowledge in research from problem identification to application of various tools in the field situation and bringing solutions and deriving conclusions.	After going through this paper, it is expected that the students will have thorough knowledge on research process which will make them better employable in the fields involving research.

Core-13	SOCIOLOGY OF GENDER	To learn about social construction of gender • How patriarchy shapes our ideas • To understand the context of different waves of feminism and the theories • To learn on the status of Indian women at different historical junctures and the different movement for improving their status • To learn on the different approaches on gender and development.	This helps students to be gender sensitive both at home and in the public sphere, and enhances their employability as well

Core-14	SOCIOLOGY OF ENVIRONMENT & CLIMATE CHANGE	Establish before the students the reciprocal relationship between environment and society, the scope and subject matter of Sociology of environment, the approaches to environment developed by various schools. • Provide substantial idea about the environmental degradation process, their markers and the movements launched to protect the environment in India. • Accumulate ideas about the ideological currents, issues that drive environment movements. • Make the students sensitized about the great global environmental catastrophes and their consequences. • Give a stock knowledge on the various international efforts undertaken and strategies adopted to conserve environment.	After going through this paper, it is expected that the students will have a fair amount of conscious knowledge on the significance of environment in a society, its present state of degradation and the concern thereof and the societal responsibility to preserve and protect it.

Core-15	INTRODUCTION TO SOCIOLOGY OF MEDIA AND POPULAR CULTURE	Learn on the history of popular and mass culture • Analyze texts from different theoretical lens • Understand the contemporary issues in media studie	Students can decipher the meaning of particular media text and images, the ideologies associated with it and critically analyze the texts they consume.
Core-16	RURAL SOCIOLOGY	To understand the nature scope and relevance of rural sociology. • To study village communities in contemporary times. • To learn about the rural movements and programmes for improving rural life.	In today's era when the rural and the urban are interpenetrating into each other, it is important for students to understand who the rural is understood.

Government Autonomous College Angul

Department:_MBA

Programme Name: IMBA

Course Outcome

Core	**Course Name**	**Outcome**

Paper		
IMBA101	Business Organization	➲ Foundational knowledge in accounting, economics, finance, management, and marketing in application of concepts and theories. ➲ Understand the basic knowledge of business
IMBA102	Principles of Management	➲ Helps to manage organizations using effective practices of management. Helps to learn planning, decision making, organizational structure, culture, leadership, motivation, and communication.
IMBA103	Business Economics	➲ Helps to identify various market structures . ➲ commercial transactions and their impact on business decisions
IMBA104	Basic Financial Accounting	➲ Prepares accounting information for planning and control ➲ Evaluation of products, projects and divisions.
IMBA105	Business Statistics	➲ It provides an understanding of the data in business ➲ Helps to make decisions based on historical data and ongoing trends.
IMBA201	Organizational Behavior	➲ Helps to analyze different models to explain individual behaviour ➲ Understanding of motivation, rewards, developing communication and resolving conflicts.
IMBA202	English Language	➲ improve their speaking ability in English & comprehensibility
IMBA203	Cost and Management Accounting	➲ It gives an improved perception of business, finance, and accounting ➲ Accurate forecasts of impending expenditures.
IMBA204	Fundamentals of Marketing Management	➲ Identify ethical and legal implication of marketing decisions. ➲ Analyze global business opportunities and its implications on a firm's marketing strategy.
IMBA205	Computer Fundamentals	➲ It helps to know Computer fundamentals such as input devices, output devices, memory, CPU, motherboard, computer network, virus, software, hardware etc.
IMBA301	Business Law	➲ To know rights and duties under various legal Acts ➲ Develop critical thinking through the use of law cases
IMBA302	Human Resource Management	➲ It helps to know effectively management and plan key human resource functions within organizations.

IMBA303	Fundamentals of Financial Management	➲ Perform analytical reviews of financial results, proposals, and plans. ➲ Identify funding sources, instruments, and markets.
IMBA304	Quantitative Methods	➲ To study research problems, where data is controlled and measured ➲ To address the accumulation of facts, and to determine the causes of behaviour.
IMBA305	Communicative English	➲ Develop vocabulary and improve the accuracy in grammar ➲ Confidence to speak in public.
IMBA401	Management of Financial Services	➲ It helps to understanding of the various functions of the management ➲ understanding of the goals of the finance manager
IMBA402	Human Resource Development	➲ It helps to improve the skills, knowledge, and abilities of employees, which leads to improved performance and productivity.
IMBA403	Environment Management	➲ Enhancement of environmental performance, fulfilment of compliance obligations and achievement of environmental objectives.
IMBA404	Research Methodology	➲ To know the methods appropriate to research objectives ➲ enhance the skill in qualitative and quantitative data analysis and presentation.
IMBA405	IT in Business	➲ It helps to know the use of technology in a business that can advertise that brings marketing tactics to the internet, print and other companies.
IMBA501	Indian Society and Culture	➲ understanding of societal and cultural dimensions of the dynamic nature of society and the environment
IMBA502	E-Commerce	➲ Understand the basic concepts and technologies used & know how to develop and implement information systems.
IMBA503	Introduction to Financial Markets	➲ Understand the role and importance of the Indian financial market ➲ Know the vauation of stocks, bonds, and securities are calculated.
IMBA504	Banking Concepts	➲ To gain knowledge about banking sector, insurance sector, investment and merchant banking activities, capital markets, share Broking and derivatives market.
IMBA505	Organization Study Report	➲ Student is able to test the theoretical learning in practical situations by accomplishing the tasks assigned during the internship period.

	and Presentation (Internal)	
IMBA601	Service Marketing	➲ Aims to know the concepts and techniques that help in taking decisions relating to various services marketing situations.
IMBA602	Introduction to Banking and Insurance	➲ Helps to learn about different activities of Chartered Accountant, Investment Banker, Investment Analysts, Budget Analysts, Business Consultants, business Operation Manager.
IMBA603	Production and Operations Management	➲ Understand the various production and operations design decisions and how they relate to the overall strategies of organizations. ➲ Understand the importance of product and service design decisions and its impact other design decisions and operations.
IMBA604	Entrepreneurship Development	➲ Increase the knowledge and skill of existing entrepreneurs & encourage people to be an entrepreneur
IMBA605	Project Report, and Viva Voce	➲ It is included to enhance professional skills ➲ Practical knowledge on work system.
IMBA701	Introduction to Management Functions	➲ Exercise critical judgement in creating new understanding ➲ Advance reasoned and factually supported arguments effectively in written work and oral presentation
IMBA702	Organizational Development and Change	➲ Gaining knowledge about organizational development process. ➲ How to change and develop organizations.
IMBA703	Accounting for Decision Making	➲ Understand, manage and track capital flow and record business revenue. ➲ Analyze the impact of business decisions on the overall financial performance & understand business operations and accounting to make financial decisions.
IMBA704	Financial Management	➲ Evaluate leadership style to anticipate the consequences of each leadership style ➲ Demonstrate the techniques for controlling and coordination
IMBA705	Managerial Economics	➲ Concretize economic problems and understand theoretical framework and actual empirical conditions are connected. ➲ They can use them in various economic concepts and models and find out and compare the economic situations of the country.
IMBA706	Marketing Management	➲ Develop strategies with clients, customers, and consumers to maintain relationships. ➲ Apply entrepreneurial strategies for new career opportunities that might include contract employment, and self-employment initiatives.

IMBA707	Computer For Management	➲ Gain professional skills of Desk Top Publishing Tools ➲ Develop vital communication skills which are integral to their personal, social and professional interactions
IMBA801	Business Environment	➲ Analyze the relationships between Government and business ➲ Analyze current economic conditions in developing emerging markets, and evaluate present and future opportunities. ➲
IMBA802	Human Resource Management & Strategy	➲ Competency to recruit, train, and appraise the performance ➲ Handle employee issues and evaluate the new trends
IMBA803	Business Regulatory Framework	➲ Career opportunity in corporate sector relating to business law in India & understand the emerging issues relating to e-commerce, e-transaction issues and E Contracts
IMBA804	Quantitative Techniques	➲ Identify different types of decision-making ➲ Develop critical thinking to improve decision making.
IMBA805	Business Ethics & Corporate Governance	➲ Analyze CSR initiatives ➲ Analyze the Employees conditions and Business Ethics
IMBA806	Managerial Communication Skill	➲ Imbibe the mechanics of writing To draft effective business correspondence with brevity and clarity
IMBA807	Business Policy & Strategic Management	➲ Enhanced ability to identify strategic issues and design appropriate courses of action. ➲ Understand the importance of motivation in building a strong and competitive Business Organization.
IMBA901	Under Study Report / SIP & Viva	➲ Student is able to test the theoretical learning in practical situations by accomplishing the tasks assigned during the internship period. ➲ Student is able to apply various soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in internship organization.
IMBA902	International Business Management	➲ Students will demonstrate the ability to communicate effectively, critical thinking skills & will have an understanding of global perspectives.
IMBA903	Retail Management	➲ Understand the financial implication of strategic retail decisions ➲ key drivers of retail supply chain and how to select a retail store location

IMBA904	Decision Support System	➲ Ability to analyze, investigate and evaluate a decision model. ➲ Ability to locate and select appropriate data to support decision models.
IMBA 1001	Corporate Social Responsibility	➲ Demonstrate a multi-stakeholder perspective in viewing CSR issues. ➲ Analyze the impact of CSR implementation on corporate culture, particularly as it relates to social issues.
IMBA 1002	Rural Marketing and Management	➲ Know the concept of rural marketing research and examine the differences between rural, semi –urban and urban markets ➲ Recognize the role and importance of government in developing rural agriculture marketing
IMBA 1003	Dissertation	➲ Student is able to apply various soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in internship organization. ➲ Student is able to test the theoretical learning in practical situations by accomplishing the tasks assigned during the internship period.
IMBA 1004	Comprehensive Viva	➲ demonstrating students' ability to reflect and think critically in real time.
HRM-1	Human Resource Planning	➲ Develop employability skills for the Canadian workplace ➲ Examine current issues, trends, practices, and processes
HRM-2	Industrial Relation & Labor Laws	➲ Illustrate the role of trade union in the industrial setup. ➲ Able to summarize the important provisions of Social Security Legislations role of trade union.
HRM-3	Compensation Management	➲ Strengthen the pay-for-performance link. ➲ Understand the Legally required employee benefits & concepts of Payment and employee benefits issues for contingent workers.
HRM-4	Performance & Appraisal Management	➲ Performance appraisals are utilized in an attempt to measure employee performance in organizations. Often times the outcome of these appraisals affect the employees retention, promotion, or salary
HRM-5	International Human Resource Management	➲ Be able to advance well reasoned and factually supported arguments in both written work and verbal/oral presentations. Work effectively with colleagues with diverse skills, experience levels and way of thinking.
HRM-6	Management Of Training & Development	➲ Understand the need and process of training need analysis in organizations
FM-1	Security Analysis & Portfolio Management	➲ Value financial assets such as stocks and bonds &Measure the risk and return of a stock or a portfolio position
FM-2	Financial Derivatives	➲ Demonstrate knowledge of all aspects of derivative market theory and the roles they play in the financial markets.

FM-3	Management Of Financial System	➲ To develop an understanding of the various functions of the management. To gain basic knowledge of branches of Functional Management: personnel, marketing, strategic management and production management.
FM-4	International Accounting	➲ To provide you with the key technical issues in international accounting area and their impact on financial reporting
FM-5	International Finance	➲ Students will be aware of the different kinds of foreign exchange management techniques including hedging, currency arbitrage, etc. Also to manage multinational working capital in an efficiently and effectively.
FM-6	Project Planning & Analysis	➲ Understand the current state of the project management profession
MM-1	Advertising & Sales Promotion	➲ The course helps to develop an understanding on the various aspects Advertising which includes its objectives, classification, creative aspect, role in the economy and society.
MM-2	Product & Brand Management	➲ Develop product sales tools and collateral. Understand product launch process. Develop a sustainable Product Management Framework to grow revenue and gain market share.
MM-3	Consumer Behaviour	➲ Able to analyze the effects of psychological, socio-cultural and demographic factors on the consumer decision process with their results. Able to distinguish the relationship between consumer behavior and marketing practices.
MM-4	Customer Relationship Management	➲ CRM is improved relationships with your customers. A CRM system manages all your business contacts and stores important information about them across all channels, including demographics, purchase history, and previous communications.
MM-5	Marketing Research	➲ Use marketing information and research to develop marketing strategies for organizations.
MM-6	Sales & Distribution Management	➲ Understand the basic concepts and techniques of selling and their applications to managerial decision makings in the field

Government Autonomous College, Angul

Department:_MFC

Programme Name: MFC

Course Outcome

Core	**Course Name**	**Outcome**

Paper		
MFC1.1	Business Environment	➲ Analyze the relationships between Government and business. ➲ Analyze current economic conditions in developing emerging markets, and evaluate present and future opportunities.
MFC 1.2	Financial Accounting	➲ Know and apply accounting and finance theory & evaluate financial statement information.
MFC 1.3	Principle of Management	➲ Helps to manage organizations using effective practices of management. ➲ Helps to learn planning, decision making, organizational structure, culture, leadership, motivation, and communication.
MFC 1.4	Business Statistics	➲ It provides an understanding of the data in business ➲ Helps to make decisions based on historical data and ongoing trends.
MFC 1.5	Quantitative Techniques	➲ To study research problems, where data is controlled and measured ➲ To address the accumulation of facts, and to determine the causes of behaviour.
MFC 1.6	Computer for Management	➲ It helps to know Computer fundamentals such as input devices, output devices, memory, CPU, motherboard, computer network, virus, software, hardware etc.
MFC 1.7	Business Communication	➲ Discuss best practices in workplace etiquette. ➲ Discuss the role and types of teams in workplace communication.
MFC 2.1	Business Economics	➲ Concretize economic problems and understand theoretical framework and actual empirical conditions are connected. ➲ They can use them in various economic concepts and models and find out and compare the economic situations of the country.
MFC 2.2	Financial Management	➲ Describe the planning process to make managerial decisions ➲ Apply economic analysis for developing management policy
MFC 2.3	Business & Corporate Law	➲ To know the legal framework of business & Advice the company legal procedure
MFC 2.4	Marketing Management	➲ Develop strategies with clients, customers, and consumers to maintain relationships. ➲ Apply entrepreneurial strategies for new career opportunities that might include contract employment, and self-employment initiatives.
MFC 2.5	Cost Accounting	➲ Evaluate cost and expenses of manufacture ➲ Cost ascertainment of business & Manage cost
MFC 2.6	Research Methodology	➲ To understand the implications of research ➲ Helps in preparing research papers & apply the methods in academics
MFC 3.1	Human Resource	➲ It helps to know effectively management and plan key human resource functions within organizations.

	Management	
MFC 3.2	Banking & Financial Institution	➲ Understand the banking concepts ➲ To know the financial sources and its effective utilization.
MFC 3.3	Seminar Presentation	➲ looks at what has been accomplished, what has happened for the learner as a result of their participation in the activity
MFC 3.4	Corporate Tax Planning	➲ To plan the taxation of an assessee& Manage the tax of business ➲ To fill tax return and refund
MFC 3.5	Corporate Accounting	➲ This course helps in understanding the procedure of calculating holding company accounts and to calculate the company accounts
MFC 3.6	Financial Statement & Analysis	➲ To make analysis of financial reports &Manage the cash flow of the concern. ➲ Analysis of budgets and standard cost
MFC 3.4	Security Analysis & Portfolio Management	➲ Manage the risk of investment ➲ Knowledge of being stock broker , Economic , Technical Analysis
MFC 3.5	Financial Derivatives	➲ Manage the risk of investment ➲ Knowledge of being stock broker & To get the knowledge of Options and Future
MFC 3.6	Financial Systems	➲ Understand the financial systems of India & know various sources of finance
MFC 3.4	Advertising & Sales Promotion	➲ The course helps to develop an understanding on the various aspects Advertising which includes its objectives, classification, creative aspect, role in the economy and society.
MFC 3.5	Product & Brand Management	➲ Develop product sales tools and collateral. Understand product launch process. Develop a sustainable Product Management Framework to grow revenue and gain market share.
MFC 3.6	Consumer Behavior	➲ Able to analyze the effects of psychological, socio-cultural and demographic factors on the consumer decision process with their results. ➲ Able to distinguish the relationship between consumer behavior and marketing practices.
MFC 4.1	Organizational Behavior	➲ to analyze and compare different models used to explain individual behaviour related to motivation and rewards. to identify the processes used in developing communication and resolving conflicts
MFC 4.2	Dissertation	➲ Understand and apply theoretical frameworks to the chosen area of study. ➲ Identify, analyse and interpret suitable data to enable the research question to be answered.
MFC 4.3	Management Accounting	➲ Critically analyse and provide recommendations to improve the operations of organisations through the application of management accounting techniques;

		➲ Demonstrate mastery of costing systems, cost management systems, budgeting systems and performance measurement systems.
MFC 4.4	Accounting Standard	➲ Know and apply accounting and finance theory. ➲ Critically evaluate financial statement information &Evaluate and compare different investments.
MFC 4.5	International Accounting	➲ Explain and apply international accounting standards. ➲ Evaluate and compare different investments in International market
MFC 4.3	Auditing	➲ Gain an understanding of clients business and industry. Assess client's business risk. Describe the objectives of audit programs of asset accounts.
MFC 4.4	Financial Markets	➲ Understand the financial systems of India ➲ To know various sources of finance
MFC 4.5	Project Planning Analysis & Management	➲ Understand project and project management as a way of working. ➲ Explain different project management concepts related to project planning and project success. ➲ Interpret challenges and analyse scenarios when managing projects, and propose solutions.
MFC 4.3	International Business Finance	➲ Discuss and illustrate transaction and operating (economic) currency exposures and their management using external (derivatives and money markets) and internal techniques and policies.
MFC 4.4	Strategic Financial Management	➲ Understand the limitations of traditional accounting models in an increasingly dynamic and fast changing world. ➲ Contribute more effectively to corporate strategy by taking a more proactive and forward looking approach.
MFC 4.5	Sales & Distribution Management	➲ Understand the basic concepts and techniques of selling and their applications to managerial decision
MFC 4.3	Service Marketing	➲ To develop an understanding of the state of the art service management thinking.
MFC 4.4	Rural Marketing	➲ Know the concept of rural marketing research and examine the differences between rural, semi –urban and urban markets ➲ Recognize the role and importance of government in developing rural agriculture marketing
MFC 4.5	Sales & Distribution Management	➲ The course aims to impart skills and knowledge needed to manage sales force and distribution function so as to gain competitive advantage.

Government Autonomous College Angul

Department: Zoology

Programme Name: UG

Course Outcome

Course Name	Thrust Area/Objective	Outcome
Non-chordates I: Protista to Pseudocoelomates	To obtain a thorough understanding of the gradual changes in the processes of life from primitive stage onwards. Knownedge of parasitic life.	The students will be able to gain basic taxonomic knowledge of systematics and phylogeny.
Principles of Ecology	To provide a holistic idea about populations, their interactions among themselves and with their environment and to understand the pressing situations associated with climate change, pollution and related environmental processes.	Students will be exposed to the fundamental aspects of ecology, climate change and related aspects for sustainable environmental existence of life.
Non chordates II: Coelomates	To obtain a thorough understanding of the gradual changes in the structure and function enabling organisma to pervade initial aquatic condition of life to land and air. Knownedge of parasitic adaptation.	The students will be able to gain basic taxonomic knowledge of systematics and phylogeny. It provides basic knowledge of soil fertility, small and medium enterpreunership in related to prawn, pearl etc.

Cell biology	To understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes and organelles.	Students will be acquainted with the biobmembrane structure and functions, the cytoskeleton, cell division and their regulation through different check points. The association between defect in cell cycle, apoptosis, signal transduction and cancer will help in understanding cell physiology.
Diversity of Chordates	To understand the structure, behaviour, interactions and economi importance of higher animal groups	The students will be able to gain basic taxonomic knowledge of systematics, phylogeny and entrepreneurs by utilizing the basic understanding available from vertebrates like fishes, birds and Mammals, etc. Immediate life saving skills can be obtained in study of reptiles.
Physiology: Controlling and Coordinating systems	To learn and understand the foundational concepts relating to a broad range of topics in life sustaining mechanisms and their interplay to maintain Homeostasis.	The students will be able to explore the original queries on structural organisation in animals.
Fundamentals of Biochemistry and microbiology	To understand the structure and function of biomolecules. To enahance students expertisation for critical microbial analysis.	the students will understand the fundamental energetic of biochemical processes and chemical logic of metabolic pathways.
Comparative anatomy of Vertebrates	To be familiar with the anatomical design and adaptive modifications of life sustaing systems in chordates.	Students can grasp the upgradation and its utility associated with evolution of Vertebrates.

Physiology: Life Sustaining Systems	To improve the student's pursue for life and health through in-depth study of human physiology	Students can explore the functional detail of various physiological organs and its associted processes.
Biochemistry of Metabolic Processes	To exude students interest for understanding of metabolic pathways.	Idea of metabolites, their role in sustainable health and huygiene can be explored by students,
Molecular Biology	To understand the foundation of molecular basis of life like DNA, RNA and protein and their regulation, subsequent desirable molecular manipulations.	The course will acquaint the students with versatile tools and techniques employed in molecular research, innovations and creativity in basic and applied fields of biological research.
Principles of Genetics	To provide the fundamental knowledge on principles of inhertance, basis of family lineages, genetic disorders and the methods of genetic combats.	To provide the fundamental knowledge on classical genetics, genetic disorders and the methods of gene transfer.
Developmental Biology	To understand the fundamental concepts mechanisms of development including metamorphosis , regeneration, interaction of genes and environment.	The course will provide an in depth information on developmental biology starting from molecular aspects of gametogenesis to regeneration and senescense.
Evolutionary Biology	To understand the origin of life and evolutionary mechanisms operating through descent of organisms.	The students are expected to develop a solid foundation on processes of evolutionary processes responsible for bringing about variation and adaptaition.

Animal Behaviour and Chronobiology	To provide basic idea of chronology in biological systems and to understand behavioural patterns and their regulation across animal groups.	Study of animal behavior will enable the students to understand the significance of harmonious coexistance, preservation of species and individual to collective measures for sustainable existance.
Immunology	To learn the organization, malfunctioning and disorders of the immune system. To get a broad awareness of vaccines and their utility public health.	At the end of the course, the students should be able to understand the role of microbes in human health and diseases. They will be able to identify the cellular and molecular basis of immune responsiveness and understand how the innate and adaptive immune responses coordinate to fight invading pathogens.
Wildlife Conservation And Management	To generate idea on wildlife, its conservation and related laws and their utility for public welfare	Students will be exposed to the fundamental aspects of ecology, significance of wildlife, wildlife laws and various technological developments for their conservation.
Project Work	To inculcate scientific temper like conceptualisation, visualisatin and framing of ideas into applications.	First hand experience of social, economical, scientific challenges and approaches to accomplish them.

Government Autonomous College Angul
Department: Zoology
Programme Name: PG
Course Outcome

Course Name	Thrust Area/Objective	Outcome
Biosystemetic,bioinformatics and Nonchordates	To provide basic idea about classical and modern taxonomic approaches. To provides methodological background and quantitative skills in morphological and molecular phylogeny of taxonomy and systematics. To obtain a thorough understanding of the processes in invertebrates.	The students will be able to gain basic taxonomic and computational skills of systematics and phylogeny.Besides, fundamental processes in variety of invertebrates can be ascertained.
Cell Biology and genetics	To understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes and organelles. To be familiar with the various genetic and molecular changes occur in a normal cell during malignant transformation. To provide the fundamental knowledge on classical genetics, genetic disorders and the methods of gene transfer.	At the end of this course, Students will be acquainted with the membrane structure and functions, the cytoskeleton, cell division and their regulation through different check points. The association between defect in cell cycle, apoptosis, signal transduction and cancer will help in understanding cellphysiology. Students will learn working of genes in a complex manner in biological system.
Physiology,Histology and Histochemistry	To learn and understand the fundamental scientific concepts relating to a broad range of topics in animal physiology and their interactions to maintain body Homeostasis. To improve the student's perspective of health and biology through in-depth study of human physiology. To understand the basics of histochemistry.	The students will be able to explore an original query in animal physiology. Influence of the environmental factors in respective niches can be established. Students after completion of this course areexpected to learn basic histological features of important tissues and organs.

Instrumentation and Biostatistics	To provide basic idea about working principles and application of different instruments and methods used in biological sciences. To equip the learner to use the tools, techniques and statistical methods for project work/ research in biology	The course enables the students learn applications of statistical methods in solving biological problems. Students after completion of this course are expected to handle and operate basic instruments for their experimental purposes and interpret the data through appropriate statistics.
Biophysics and Biochemistry	To understand the biophysical properties and chemical foundation of life processes. To understand the structure and metabolism of biologically significant molecules. To explain the role of catabolic and anabolic pathways in cellular metabolism.	At the end of the course, the student will be able to demonstrate knowledge of the fundamental concepts in physics and chemistry that underlie biological processes. On completion of the course, the students will understand the fundamental energetic of biochemical processes and chemical logic of metabolic pathways.
Microbiology And Immunology	To help students develop skills necessary for critical analysis of microbes, microbial processes and diseases including host-parasite interaction. To learn the organization, malfunctioning and disorders of the immune system. To get a broad understanding of antigens, antibodies and vaccines.	At the end of the course, the students should be able to understand the role of microbes in human health and diseases. They will be able to identify the cellular and molecular basis of immune responsiveness and understand how the innate and adaptive immune responses coordinate to fight invading pathogens.

Endocrinology and Reproductive physiology	To impart knowledge on structure, function and regulation of different endocrine glands of vertebrates. To give the basic concepts on hormone signaling and role of endocrine organs in different reproductive phases of animals. To provide basic idea about structure, function and physiological role of endocrine system during reproduction including different aspects of fertility and contraception.	The role of endocrine glands in different physiological processes and regulation of body homeostasis can be better understood by the students.
Evolutionary Biology And Animal behaviour	To understand the evidence that living species share descent from common ancestry. To provide basic idea about different aspects of animal behavior and their regulation.	The students are expected to develop a solid foundation on processes of evolutionary processes responsible for bringing about variation in gene frequency. They would be able to suggest beneficial alterations in agricultural crops and livestock through variability studies. Study of animal behavior will enable the students to understand the physiological processes for beneficiation processes.
Chordates,Comparative Anatomy And economic Zoology	To be familiar with the anatomical design and evolutionary affinities of chordate phyla, their general and distinguishing characters. To understand the biology and culture of various animals of economic importance.	The students can be entrepreneurs by utilizing the skills of economic zoology.

Developmental Biology	To understand the basic concept and experimental aspect of developmental biology using model organisms. To study the developmental aspects including metamorphosis and regeneration. To elucidate the interaction of genes and environment during development.	To understand the basic concept and experimental aspect of developmental biology using model organisms. To study the developmental aspects including metamorphosis and regeneration. To elucidate the interaction of genes and environment during development.
Environmental Biology and wildlife conservation	To provide a holistic idea populations, their interactions and communities. To understand the processes associated with climate change, carbon budget and related environmental processes. To generate idea on wildlife, its conservation and related laws.	Students will be exposed to the fundamental aspects of ecology, climate change and related aspects. They are expected to know wildlife laws and various technological developments for their conservation.
Animal Physiology And Developmental Biology	To study the mechanism of working of different organs and their role in maintenance of body homeostasis. To learn the mechanism of development of animal embryo.	Students will be familiarized with physiological processes of animals and basic concepts on development of animals.
Molecular Biology, Genetic Engineeringand applications	To study the central dogma of molecular biology in modern perspectives. To study regulation of genes, manipulation of genes for production of transgenic animals, rectification of defects in genes using advanced molecular techniques	The course will acquaint the students with versatile tools and techniques employed in genetic engineering and allow them for innovative application of these in basic and applied fields of biological research. The course may be deemed as a foundation course serving as a platform for introduction of more advanced cutting-edge technologies.

MICROBIAL ECOLOGY AND BIOTECHNOLOGY, AND NANOBIOLOGY	To study the ecosystem of microbes in varied habitats. To understand the use of microbes in the production of biofuels, antibiotics, decomposition of waste products. To apply the concept of nanoscience in biological research.	The learners will be familiarized about the application of nanotechnology in biological research.
Animal development and neurobiology	To provide basic idea about different aspects of animal behavior and their regulation.	Study of animal behavior will enable the students to understand the physiological processes for beneficiation processes.
Project Work	To inculcate scientific temper like conceptualisation, visualisatin and framing of ideas into applications.	In depth experience of social, economical, scientific challenges and absorbed involvement to accomplish them.

ACADEMIC BURSAR PRINCIPAL