ProgrammeOutcomes(POs)andCourseOutcomes(COs)forallProgrammes offered by the institution are stated and displayed on website andattainmentof POsandCOsareevaluated

ProgrammeOutcomesforUG:B.A.

After successful completion of Undergraduate Three years B.A. general Degree Programme, theStudentswillbeable:

PO-1.Economics:
- Toknow about MicroEconomicsand IndianEconomy.
- MacroEconomicsandMoney,BankingandPublic Finance.
- DevelopmentandEnvironmentalEconomicsandStatisticalMethods.

PO-2.Geography:
- Tounderstand aboutPhysicalGeographyand HumanGeography.
- ToknownEconomic and ResourcesGeographyandGeographyofIndia.
- ToknowledgeaboutRemoteSensingandGIS andGeographyofChhattisgarh.

PO-3.PoliticalScience:
- ToknowPoliticalTheory,Indian Govt.and Politics.
- Toknow theTheoryandGovt.PoliticalThought,ComparativeGovernments andPolitics.
- TounderstandInternationalPoliticsandForeignpolicyofIndia,Publicadministration.

PO-4.Sociology:
- TostudyIntroductiontoSociology,ContemporaryIndian Society.
- TolearnSociologyof TribalSociety,Crimeand Society.
- TounderstandFoundationsofSociologicalThought, Methodsof SocialResearch.

PO-6.EnglishLiterature:
- TofamiliarizeStudentswith therepresentativeauthorsandworksofBritishEnglish Literature.
- TomaketheStudentsunderstandthetrendsandHistoryofEnglishLiterature.
- TocreateamongStudentsaninterestinthetextofLiteratureandmakethemunderstandtheLiteracydevices of Poetry,Drama,ProseandFiction.

PO-7.HindiLiterature:
- विद्यार्थी हिन्दी साहित्य की विविध काव्य एवं गद्य प्रवृतियों से परिचित हो सकेंगे।
- चयनित पाठ्य सामग्री के माध्यम से तत्कालीन काव्य संवेदना को समझ सकेंगे।
- साहित्य विविध रूपों के माध्यम से जीवन की अनुभूतियों, संवेदनाओं तथा विविध परिस्थितियों का साक्षात्कार कर सकेंगे।
- विद्यार्थी को सृजनात्मक क्षमता का विकास हो सकेगा।
- विद्यार्थी की मर्मग्राहिणी प्रतिभा का विकास होगा और ऐतिहासिक परिपेक्ष्य में शुद्ध साहित्य विवके का सन्निवेष होगा।

PO-8.Environmental Studies:
- TounderstandtheissuesofEnvironmentalContexts andSustainableDevelopment.

PO-9.EnglishLanguage:
- ToequiptheStudentswith basiccommunicationSkillsin English.
- Tomakethemcapableof WritingandSpeakinginEnglishcorrectly.
- Toenhance theirknowledgeof GrammarandVocabularyofEnglish.

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PO-10.Hindi Bhasha:

- छात्र–छात्रा हिन्दी भाषा की आधारभूत व्यावहारिक इकाईयों से परिचित हो सकेंगे।

- हिन्दी भाषा और उसके विविध रूपों का ज्ञान प्राप्त कर सकेंगे।

- छात्र–छात्राओं की रचनात्मक और अवबोध क्षमता का विकास हो सकेगा।

- छात्र–छात्रा व्याकरण में बुनियादी ज्ञान, संप्रेक्षण, कौशल सामाजिक संदेष एवं भाषायी दक्षता को विकसित कर अपने व्यवहारिक जीवन में उसका प्रयोग कर सकेंगे।

PO-8.Environmental Studies:

CourseOutcomesforUG:Economics

Aftercompletionofthreeyears CourseofEconomicsthestudentswillbeable:

CO-1: To understand the Definitions Nature and scope of Economics, Production Decision andProduction Function, Market Structure-Perfect and Imperfect Market, Marginal ProductivityTheoryofDistribution, WelfareEconomics.

CO-2: To understand Pre and Post Independent Indian Economy, Population and HumanDevelopment,IndianAgriculture,IndustrialDevelopmentin India,ForeignTradeofIndia.

CO-3: To know National Income, Consumption Function, Trade Cycle, International Trade, FunctionsandObjectives ofInternationalMonetaryFund.

CO-4: To acquire the knowledge Meaning and Function of Money, Commercial Banking-Meaning,Types and Functions, Definition Nature- Scope and Importance, Public Debt Sources of PublicBorrowing.

CO-5: To learn Economics Growth and Development, Problems of Population and Growth Pattern ofPopulation, Theory of Growth Models, Environmental use and EnvironmentalDisruption as anAllocationProblem, Conceptsof IntellectualCapital.

CO-6: To known about Introduction of Statistics, Measures of Central Tendency, Measures of CentralSkewness, Probability, Dispersion, Correlation, Index Number, Analysis of Time-Series,Logarithm,Antilogarithm, ReciprocalTablesandTheir Uses.

CourseOutcomesforUG:Geography

Aftercompletionof threeyears CourseofGeographythestudents willbe able:

CO-

1:ToknowntheNatureandScopeofPhysicalGeography,EarthMovement,Climatology,ClimaticClassification, Basic knowledge ofOceanography.

CO-2: To studythe Definition and Scope of Human Geography, Classification of Human Races andtheir Distribution, Growth and Distribution of world Population, Rural and Urban Settlements,GlobalEmergeEnvironmentalIssue.

CO-

3:TounderstandstheMeaning,ScopeandApproachestoeconomicgeography,MineralResources,AgricultureandIndustrialRegionsoftheworldandtheirLocation,WorldTransportation,Conservation ofresources.

CO-4: ToDeterminePhysicalFeatures,NaturalResources,CulturalFeaturesPopulation,IndustriesLocalizationto SpecialReferenceofIndia, DetailedstudyoftheRegion ofIndia.

CO-5: To learn the Basic of Remote Sensing, Types of Remote Sensing, Remote Sensing Program ofIndia,Introduction of GIS, Data Modeland DataAnalysis.

CO-

6:TogaintheknowledgeaboutPhysicalFeatures,NaturalResources,AgricultureandPopulation,IndustriesandTranspiration toSpecialreference ofChhattisgarh.

CourseOutcomesforUG: PoliticalScience

AftercompletionofthreeyearsCourseofPoliticalSciencethestudents willbeable:

CO-1: To know the Meaning and definition of Political Science, State and its essential elements,Sovereignty and its pluralistics, kinds of Governments, Organs of Government, public welfarestate.

CO-2:

TounderstandIndianNationalMovement,ConstitutionofIndia,UnionExecutive,UnionJudiciary,State Legislature.

CO-3: To know political thought of these thinkers Plato, Aristotle, Machiavelli, Hobbes, Lock andRousseau,Bentham,mill,Green,Marx,Idealism,individualism,socialism,Liberalism,Fascism, Manu,Kautilya,Gandhi,Ambedkar,DeenDayalUpadhyay.

CO-4: To acquire the knowledge of British Constitution, Constitutions of United State of America,Constitutionsof Switzerland, Constitutions of Chinaand Comparativepolitics.

CO-5: To learn International Politics, Various Theories of International politics, Foreign policy ofIndia,IndiaRelationswithneighboringCountries,SomeMajorIssueofInternationalpolitics.

CO-6:

ToknownaboutPublicAdministration,PrinciplesofOrganization,DevelopmentAdministration,Financial Administration, Corruption inAdministration.

CourseOutcomesforUG:Sociology

AftercompletionofthreeyearsCourseof Sociologythestudentswillbeable:

CO-1: To know the Meaning of Sociology, Basic Concepts, Social Institutions, Culture and Society,SocialStratification,SocialMobility,SocialChange,SocialSystemandProcess,SocialProcess.

CO-2: TounderstandClassicalViewaboutIndianSociety,StructureandCompositionofIndianSociety,BasicInstitutionof IndianSociety,FamilialProblems, SocialProblems.

CO-3: TodescribetheTribesClassificationofTribalPeople,Socio-cultureProfile,TribalSensitization,andProblems ofTribal People.

CO-4: To aware Concept of Crime, School of Crime, Structure of Crime, Social Evils and Crime, PunishmentCo-Relation Process.

CO-5: To know about these thinkers August Comte, Durkheim, Karl Marx, MaxWeber, Pareto,Spencer,ThorsteinVeblen,R.K.Morton,DevelopmentofSociologicalthoughtinIndia,MahatmaGandhi,RadhaKamalMukherjee,

CO-6: To describe the Social Research, Qualitative Research, Research Design, Tools and TechniquesofSocial Research, Social Statistics,

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Course Outcomes for UG: English Literature

After completion of three years course of English Literature the students will be able to:

CO-1: Acquire knowledge of the major Elizabethan Literatures like – Shakespeare, Milton, Pope and Bacon etc. They would know about the four genres of literature and an introduction to some literary terms.

CO-2: Learn about the English poets and authors from 1750 to 1900, including the Romanticists like - Blake, Wordsworth, Shelley, Keats and Browning etc. They would know about the fictional world of Dickens and Jane Austen.

CO-3: Know the nuances of the various forms of poetry and other genres of the Modern English period. They would be introduced to the charm of Yeats, Eliot, Oscar Wilde, Shaw and Kipling etc.

CO-4: Learn about various literary devices like simile, metaphor, alliteration etc. They would know the trends of Modern English Literature.

CO-5: Gain knowledge of all the genres of Indian Writing in English. They would enjoy the flavour of Indian English Literature of-Tagore, Sarojini Naidu, Karnad, Tendulkar and R.K.Narayan.

CO-6: The students would get a chance to learn about either the American Literature or the twentieth Century Literature in English (British) as per the paper they select.

CourseOutcomesforUG:EnglishLanguage

AftercompletionofthreeyearsCompulsoryCourseofEnglishLanguage the studentswillbeable:

B.A/B.Com/B.Sc -IstYear

CO-1: Toacquireknowledgeofthebasics ofIndianculture,scriptures,Indianart, andfundamentaldutiesand writecorrect Englishwith knowledgeof grammarandvocabulary.

B.A/B.Com/B.Sc- IIndYear

CO-2: ToknowaboutIndiawithspecialreferencetoScienceandTechnology.

CO-3: To understand about the major scientific discoveries, inventions and scientists of ancient andmodernIndia.

CO-4: Tocomfortable enoughto readandwriteEnglish withthehelp ofgrammarandvocabulary.

B.A/B.Com/B.Sc- IIIrdYear

CO-5: To acquire knowledge of the development of India and its people during the last seven decadesthatis from Independenceuntilthepresenttimes.

CO-6: To use Englishlanguagecorrectlyin writtenand spoken communication.

CourseOutcomesforUG:HindiLiterature

B.A. Part I
प्राचीन हिन्दी काव्य

- विद्यार्थियों को प्राचीन एवं मध्य कालीन कविता का ज्ञान कराना।

- हिन्दी साहित्य के स्वर्णकाल, भक्तिकाल के प्रमुख कवियों का ज्ञान कराना।

- विद्यार्थियों में साहित्य अभिरूचि का विकास कर सृजनसत्मक लेखन हेतु प्रेरित कराना।

हिन्दी कथा साहित्य

- विद्यार्थियों को कथा साहित्य का विविध प्रवृत्तियों का ज्ञान कराना।

- विद्यार्थियों को प्रमुख उपन्यासों एवं कहानियों के पाठ के माध्यम से कथा साहित्य के प्रति अभिरूचि का विकास कराना।

- विद्यार्थियों में भाषा के रचनात्मक पहलू की समझ का विकास कराना।

- हिन्दी कहानी और उपन्यास के विकासत्मक का ज्ञान कराना।

B.A.Part II
अर्वाचीन हिन्दी काव्य

- विद्यार्थियों को हिन्दी कविता के आधुनिक काल विविध प्रवृत्तियों का ज्ञान कराना।

- विद्यार्थियों को हिन्दी साहित्य के आधुनिक काल के प्रमुख काव्य आन्दोलनों का परिचय कराना।

- विद्यार्थियों को हिन्दी के कार्यालयीन एवं व्यवहारिक स्वरूप से परिचित कराना।

- विद्यार्थियों में सृजनात्मक क्षमता का विकास कराना।

• हिन्दी निबंध तथा अन्य गद्य विधाएं

- विद्यार्थियों को हिन्दी निबंध एवं गद्य विधाओं का परिचय कराना।

- विद्यार्थियों को नाटककार, एकांकीकार तथा उनकी रचनाओं से परिचित कराना।

- विद्यार्थियों को नाटक एवं एकांकियों के माध्यम से सामाजिक समस्याओं का ज्ञान करा कर उनके समाधान हेतु प्रेरित करना।

- विद्यार्थियों में लेखकों के लेखन शैली के प्रति आलोचनात्मक दृष्टि का विकास करना।

छत्तीसगढी भाषा एवं साहित्य

- विद्यार्थियों में छत्तीसगढी भाषा एवं साहित्य के प्रति अभिरूचि का विकास कराना ।
- विद्यार्थियों को छत्तीसगढी भाषा एवं व्याकरण का ज्ञान कराकर, छत्तीसगढी में साहित्य सृजन की क्षमता का विकास करना ।
- छत्तीसगढी भाषा के प्रमुख रचनाकारीं से परिचित कराना ।
- छत्तीसगढी भाषा की कविता उवं गद्य की विविध विधाओं का ज्ञान कराना ।
- विद्यार्थियों में छत्तीसगढी साहित्य के प्रति आलोचनात्मक दृष्टि का विकास कराना ।

हिन्दी भाषा एवं साहित्य का विकास तथा काव्यांग विवेचन

- विद्यार्थियों को हिन्दी भाषा के लेखन,पठन और वाचनकला का विकास कराना ।
- हिन्दी भाषा के विविध रूपों से परिचित करना ।
- छत्तीसगढी भाषा के प्रमुख रचनाकारीं से परिचित कराना ।
- विद्यार्थियों को हिन्दी भाषा साहित्य के सभी कालखण्डों (आदिकाल,भक्तिकाल, रीतीकाल, एवं आधूनिक काल) की पृष्ट भूमि, परंपरा, प्रवृत्ति एवं रचनाकारों तथा उनकी प्रमुख रचनाओं से परिचित कराना ।
- विद्यार्थियों में हिन्दी साहित्य के इतिहास लेखन की परंपरा और उसके प्रति आलोचनात्मक दृष्टि का विकास कराना ।

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CourseOutcomesforUG:HindiBhasha

CO-1:

- हिन्दी के चयनित गद्य एवं काव्य का अध्ययन करना।
- वर्ण एवं शब्द विचार से परिचित कराना।
- देवनागरी लिपि के उद्भव और विकास से परिचित कराना।
- कम्प्यूटर में हिन्दी अनुप्रयोग से परिचित कराना।
- भाषा एवं समाज के विविध रूपों एवं अंतर्सम्बंधों का अध्ययन करना।

CO-2:

- चयनित निबंधों के माध्यम से निबंध विघा का परिचय प्राप्त करना।
- कार्यालयीन भाषा के रूप में हिन्दी का ज्ञान कराना।
- संज्ञा,सर्वनाम, विषेषण, क्रिया विषेषण, संधि, समास, का अध्ययन कराना।
- अनुवाद (अंग्रेजी–हिन्दी) से परिचित कराना।

CO-3:

- चयनित कविता, कहानी, निबंध एवं अध्ययन करना।
- कथन की विविध शैलियों से परिचित कराना।
- विभिन्न व्याकरणिक संरचनाओं का ज्ञान कराना।
- कार्यालयीन पत्र–परिपत्र, आदेश, अधिसूचना, ज्ञापन, अनुस्मारक, पृष्टांकन और आलेख का परिचय और अभ्यास कराना।
- प्रतिवेदन लेखन का अभ्यास करना।

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ProgrammeOutcomesforUG:B.Sc.

AftersuccessfulcompletionofUndergraduatethreeyearsB.Sc.generalDegreeProgramme,theStudentswillbe able:

PO-1.Physics:
- ToknowMechanics,Oscillations,PropertiesofMatter,Electricity,Magnetismandelectromagnetic Theory.
- ToacquaintThermodynamics,KineticTheory,StatisticalPhysics,Waves,AcousticsandOptics.
- TounderstandRelativity,QuantumMechanics,AtomicMolecularandNuclearPhysics,SolidStatePh ysics, SolidState DevicesandElectronics.

PO-2.Chemistry:
- To impart knowledge on different topic of chemistry viz: Inorganic, Organic, and Physicalchemistry the core course would help to enrich the subject knowledge of the students andincrease their confidence level in the field of both Academia and Industry. This course hasbrought and opportunity in front of students to gain knowledge on various multi-disciplinarysubjectsboth theoreticallyand practically.

PO-3.Mathematics:
- ToExplainAlgebra andTrigonometry,CalculusandVector Analysis andGeometry.
- ToDescribeAdvanced Calculus,DifferentialEquations,Mechanics.
- TounderstandAnalysis,Abstract Algebraand DiscreteMathematics.

PO-4.Botany:
- ToidentifytheBacteria,VirusesandBryophytes,LichesandAlgae,Pteridophytes,Bryophytes,Gymn osperms and Palaeobotany.
- To know about Plants Taxonomy, Economic Botany, Plant Anatomy and Embryology, PlantsPhysiologyand Ecology.
- TostudythePlantsPathology,ExperimentalEmbryology,ElementaryBioStatistics,EnvironmentalP ollutionandGenetics,MolecularBiology,BioTechnology,andBioChemistry.

PO-5.Zoology:
- ToacquiretheknowledgeofCellbiology,Non-Chordates,ChordatesandEmbryology.
- To understand the basic concepts of Anatomy, Physiology, Endocrinology and Reproductivebiologyof Vertebrates. Behavior,Evolution and applied Zoology.
- StudentsreceivedknowledgeofEcology,EnvironmentalBiology,Toxicology,Microbiology, Medical Zoology, Genetics ,Cell Physiology, Biochemistry, Biotechnology , andBiotechniques

PO-6. Geology:

- Geodynamicsand Geomorphology,MinieralogyandCrystallography.
- Petrologyand Structural Geology.
- PalaeontoogyandStratigraphy,EarthResourcesandAppliedGeology.

PO-7. EnvironmentalStudies:

- Tounderstand theissuesof EnvironmentalContexts andSustainable Development.

PO-8. Hindi Bhasha:

- छात्र–छात्रा हिन्दी भाषा की आधारभूत व्याकरणिक इकाईयों से परिचित हो सकेंगे।।

- हिन्दी भाषा और उसके विविध रूपों का ज्ञान प्राप्त कर सकेंगे।

- छात्र–छात्राओं की रचनात्मक और अवबोध क्षमता का विकास हो सकेगा।

- छात्र–छात्रा व्याकरण में बुनियादि ज्ञान, संप्रेषण, कौशल सामाजिक संदेष एवं भाषायी दक्षता को विकसित कर अपने व्यावहारिक जीवन में उसका प्रयोग कर सकेंगे।

CourseOutcomesforUG:Physics

AftercompletionofthreeyearsCourseof Physicsthestudents willbeable:

CO-1: To acquire the knowledge of Mechanics, Rigid Body Motion and Oscillations, Superposition ofSimple Harmonic Oscillations, Motion of Charged Particles in Electric and Magnetic Fields,General Propertiesof Matter.

CO-2:
ToelicitMathematicalPhysicsandNetworkTheorems,Electrostatics,DielectricsandAlternatingCurrentCircuits, Magneto-statics, Elecrodynamics.

CO-3: TodescribeLawsofThermodynamics,Entropy,Thermo-dynamicalPotentialanditsApplications,Black-BodyRadiation,MaxwellienDistributionofspeedsinanidealgas,Transport Phenomena in gases, Behavior of real gases, Statistical Basis of Thermodynamics,Universallawsand Quantum Statistics.

CO-4: To determine Waves in Medium, Geometrical Optics, Physical Optics, Diffraction, DoubleRefractionandOpticalRotation andLASER.

CO-5: To PerceiveSpecial Relativity and Lorentz Transformation, Origin of the Quantum MechanicsandwaveparticlesDuality,UncertaintyPrinciple,Schrodinger'sWaveEquationanditsApplications, Elements of Spectroscopy, Structure of Nuclear Models Nuclear Reactions andNuclearDetectors.

CO-6: ToLearnCrystalstructure,ThermalPropertiesofSolids,ElectricalPropertiesofSolids,MagneticPropertiesofSolids,SemiconductorDiode,Transistor,RectifiersandFilters,ApplicationofTransistors and Digital Circuits.

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CourseOutcomesforUG:Chemistry

After completion ofthreeyearsCourseofChemistrythestudents willbeable:

CO-1: To acquire the knowledge of Atomic Structure, Periodic Properties, Chemical Bonding-I: Ionicbond, Chemical Bonding-II: Covalent bond, s-Block Elements, p- Block Elements, ChemistryofNovel Gasesand TheoreticalPrinciples in QualitativeAnalysis(H_2S).

CO-2: ToknowabouttheBasicsofOrganicChemistry,IntroductiontoStereochemistry,Conformational Analysis of Alkanes,Chemistry of Aliphatic hydrocarbons: Carbon-Carbonsigma bonds, Carbon-Carbon Pibonds, AromaticHydrocarbons.

CO-3: To get the basic knowledge of Mathematical Concepts for Chemist, Gaseous state Chemistry,Gaseous State Chemistry, Liquid state Chemistry, Colloids and Surface Chemistry, Solid StateChemistry,ChemicalKinetics, Catalysis.

CO-4: To learn about the Chemistry of Transition Series Elements, Oxidation and Reduction, Co-OrdinationCompounds,Co-OrdinationChemistry,ChemistryofLanthanideElements,ChemistryofActinides, Acids-Bases, Non-Aqueous Solvents.

CO-5: To illustrate about the Chemistry of Organic Halides: Alkyl halides, Aryl halides, Alcohols:Alcohol, Trihydic alcohols, Aldehydes and Ketones, Carboxylic Acids: Di carboxylic acids,Carboxylicacid derivatives, OrganicCompoundsofNitrogen.

CO-6: To explain about the Thermodynamics-I, Thermo Chemistry, Thermodynamics-II: Second LawofThermodynamics,ChemicalEquilibrium,IonicEquilibrium,PhaseEquilibrium,andPhotochemistry

CO-7: To perceive about the Metal-Ligand Bonding in transition Metal Complexes, Thermodynamicand Kinetic aspects of Metal complexes, Magnetic Properties of Transition Metal Complexes,electronic Spectra of Transition Metal Complexes, Organometallic Chemistry, Catalysis byOrganometallic Compounds, Bio-Inorganic Chemistry, Hard and Soft Acids and Bases(HSAB),InorganicPolymers.

CO-5: To describe about the Heterocyclic Compounds, Organometallic Reagents, Organic Synthesisvia Enolates, Biomolecules: Carbohydrates, amino Acids, Proteins and nucleic acids, SyntheticPolymers,SyntheticDyes,Infra-RedSpectroscopy,UV-VisibleSpectroscopy,NMRSpectroscopy,

CO-6: To able to designate about the Quantum Mechanics-I, Quantum Mechanics-II, Spectrocopy :Introduction,VibrationalSpectroscopy,RamanSpectroscopy,RamanSpectrum,ElectronicSpectroscopy, Electrochemistry-I: Electrolytic Conductance, Theories of Strong Electrolytes,MigrationofIons,Electrochemistry-IIElectrochemicalcellandGalvanicCells,singleElectrodePotential, Concentration Cell.

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CourseOutcomesforUG:Mathematics

AftercompletionofthreeyearsCourseof Mathematicsthe studentswill beable:

CO-1: To Solve the Elementary Operations, Elementary Matrices and Inverse of Matrix, Rank ofMatrices, EigenValues and Eigen Vector, Applications of Matrices to System of LinearEquations, Consistency and Inconsistency, Theory of Equations, Relation and Mapping, Group,Subgroup,CyclicGroup,CosetDecomposition,NormalSubgroup,QuotientGroup,Permutation Group, Homomorphism and Isomorphism of Groups, Fundamental Theorem ofHomomorphism, Ring, Integral Domain, Field, De-Moiver's Theorem and its Application,DirectandInverseCircularandHyperbolicFunctions,logarithmofComplexQuantities, Expansion of Trigonometric Functions, Gergory's Seriesand Summation of TrigonometricSeries.

CO-2:
ToEvaluateLimitandContinuity,Differentiability,Leibnitz'sTheorem,Maclaurin'sandTaylorSeries,Asymptotes,Curvature,ConcavityandConvexity,TracingofCurves,Integration of Transcendental Functions, Reduction Formulae, Definite Integrals, Quadratura,LengthofCurve,VolumesofSurfacesofSolidofRevolutions,DifferentialandExactDifferentialEquation,GeometricalMeaningofDifferentialEquation,LinearDifferentialEquation and OrdinarySimultaneous Differential Equation.

CO-3: To Find Out the Scalar and Vector Product and Its Differentiation, Gradient, Divergence, Curl,VectorIntegration,Gauss's,Green'sandStoke'sTheorem,GeneralEquationsofSecondDegree and Tracing of Conics and Its System, Polar Equation of Conic, The Sphere, Cone,Cylinder,CentralConicoids,Paraboloid,PlaneSectionofConicoids,GeneratingLines,ConfocalConicoids andReduction of Section DegreeEquations.

CO-4: ToIdentifyConvergenceofSequenceandSeries,AlternatingSeries,ContinuityandDifferentiability of One Variable Function, Darboux's Intermediate and Mean Value Theorem,Taylor's Theorem, Limit, Continuity and Tayloer's Theorem For Function of Two Variables,PartialDifferentiationandEuler'sTheoremonHomogeneneousFunction,ChangeofVariables, Jacobians, Envelopes and Evolutes, Maxima, Minima and Saddle Point of Functionsof Two Variables, Beta and GammaFunctions,Double and TripleIntegrals, Change of OrderofIntegration inDoubleIntegrals.

CO-5: To Determine Power Series Solution of Differential Equation, Bessel's Equation, Legender'sEquation,OrthogonalityofFunctionandStrum-LiouvilleProblem,LaplaceandInverseLaplace Transform, Solution of Integral Equation and System of Differential Equations Usingthe Laplace Transform, Partial Differential Equation of First and Second Order, Lagrange'sSolution,HomogenneousandNon-HomogeneousEquationwithConstantCoefficient,Monge'sMethod,CalculusofVariation-variationalProblemswithFixedBoundariesandMovingBoundaries, Sufficient Condition foran Extremum.

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CO-6: To Explain Analytic Conditions of Euilibrium, Stable and Unstable Equilibrium, Virtual Work,Catenary, Force in Three Dimensions, Poisot's Central Axis, Null Lines and Planes, SimpleHarmonic Motion, Elastic Strings, Velocities and Accelerations Along Radial and TransverseDirection,Projectile,CentralOrbits,Kepler'sLawsofMotion,TangentialandNormalVel ocities and Acceleration, Motion of Smooth and Rough Plane Curves, Motion in a resistingMedium,Motion ofParticlesof Varying Mass andThree Dimensions.

CO-7: To Derive Series of Arbitrary Terms and Double Series, Partial Derivation, Implicit Function,FourierSeries,RiemannIntegral,ImproperIntegralandtheirTestofConvergence,Integrala sa Function of a Parameter, Continuity and Differentiability of Complex Number, AnalyticFunction, Elementary Functions, Mapping by Elementary Function, Mobius Transformation,Conformal Mappings,Metric Spaces, Contraction Principle and Construction of Real NumberFromRationals, Metric Space,Continuous Function, Compactness,Connectedness.

CO-8: ToFindGroupAutomorphisms,Sylow'sTheorem,StructureTheoremfor FiniteAbelianGroups,RingTheory,Modulus,VectorSpaces,LinearTransformationandtheirRepres entation as Matrices, Rank and Nullity of a Linear Transformation Dual and BidualSpaces, Eigen Values and Eigen Vectors of a Linear Transformation and Diagonalization,Bilinear,QuadraticandHermitianForms,InnerProduct.

CO-9: To Explain Sets and Propositions, Relations and Functions, Graphs and Planar Graphs, Trees,Finite State Machines, RecurrenceRelation and RecursiveAlgorithms, BooleanAlgebra.