GOVERNMENT DEGREE COLLEGE

RAZOLE, Dr B R AMBEDKAR KONASEEMA (Dist), A.P-533242

NAAC Re-Accredited with 'B' Grade

B.Sc (MPC) Course Outcomes (COs)

course Name - C1	**CO Number**	**CO Statements**	**Blooms Taxonomy Level**
	CO 1	1. Use grammar effectively in writing and speaking r	L1, L2, L4
English - I	CO 2	2. Demonstrate the use of good vocabulary	L1,L3
	CO 3	3. Demonstrate an understating of writing skills	L5,L3,L2
	CO 4	4. Acquire ability to use soft skills in professional and daily life	L1,L4
	CO 5	5. Confidently use the tools of communication skills	L1,L4
Course Name - C2	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	ప్రాచీన తెలుగు సాహిత్యం యొక్క ప్రాచీనతను,విశిష్టతను గుర్తిస్తారు . తెలుగు సాహిత్యంలో	L1,L2,L5
Telugu - I	CO 2	తిక్కన భరతం నాటి మత, ధార్మిక పరిస్థితులను , తిక్కన కవితా శిల్పాన్ని , నాటకీయతను అవగాహన చేసుకోగలరు	L1,L2,
	CO 3	. ఎఱ్ఱన సూక్తి వైచిత్రిని , ఇతిహాస కవిత్వంలోని విభిన్న రీతులపట్ల అభిరుచిని పొందగలరు	L1,L2,L5
	CO 4	శ్రీనాథుని కాలం నాటి కవితా విశేషాలను , తెలుగు పద్యం స్వరూప స్వభావాలను , సాహిత్య అభిరుచిని పెంపొందించుకుంటారు	L3,L5
	CO 5	మొల్ల కవితా విశిష్టతను గుర్తించగలరు .	L2, L3
Course Name - C3	CO Number	CO	Blooms Taxonomy Level
	CO 1	Identify differentiate linear and non-linear differential equations.	L1 , L2
Differential Equations	CO 2	Apply different methods for solving differential equations of first order but not of first degree.	L3

Maths - I	CO 3	Evaluate the solution of higher-order linear differential equations with constant coefficients	L4, L5
	CO 4	Apply the method of "variation of parameters" to find the solution of higher-order linear differential equations with variable coefficients	L3
	CO 5	Explain the solution of Legendre Differential Equations with variable coefficients	L2, L3,L4
course Name - C4	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	Summarize for the students should have attained a common level in basic mechanics, a secure foundation in mathematics.	L2, L5
Physics -I	CO 2	Describe this course would empower the student to acquire engineering skills and practical knowledge, which help the student.	L1, L2
	CO 3	Develop this course will provide a theoretical basis for doing experiments in related areas.	L6
	CO 4	Test the basic knowledge & information about space rockets.	L4, L5, L6
	CO 5	Explain the postulates of special theory of relativity.	L2, L3, L4
course Name - C5	CO Number	CO	Blooms Taxonomy Level
	CO 1	Write the preparations of diborane and higher boranes	L3,L5
Chemistry- I	CO 2	Get knowledge of inter Halogen compounds	L2, L3
	CO 3	Identify cation and anion in the given inorganic salt by doing systematic procedure in laboratory	L1,L2,L4
	CO 4	Understand the difference between Physical absorption and Chemical absorption	L2, L3
	CO 5	Get knowledge about Raoult's Law, completely miscible liquids,	L2, L3

		partial miscible liquids , immiscible liquids (Nernst distribution Law) and Colloids	
course Name - C6	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	Use reading skills effectively.	L1, L2, L4
English - II	CO 2	Comprehend different texts	L1,L3
	CO 3	Interpret different types of texts	L5,L3,L2
	CO 4	Analyse what is being read	L1,L4
	CO 5	Build up a repository of active vocabulary	L1,L4
course Name - C7	CO Number	CO	Blooms Taxonomy Level
	CO 1	ఆంగ్లభాష ప్రభావం కారణంగా తెలుగులో వచ్చిన ఆధునిక సాహిత్యాన్ని , దాని విశిష్టతను గుర్తిస్తారు	L1,L2,L5
Telugu - II	CO 2	సమకాలీన ఆధునిక సాహిత్య ప్రక్రియలైన "వచిన కవిత్వం ,కథ ,నవల ,నాటకం , విమర్శ"	L1,L2,
	CO 3	భావకవిత ,అభ్యుదయ కవితాలక్ష్యాలను గూర్చిన జ్ఞానాన్ని పొందుతారు . అస్తిత్వవాద ఉద్యమాల పుట్టుకను , ఆవశ్యకతను గుర్తిస్తారు	L1,L2,L5
	CO 4	కథాసాహిత్యం ద్వారా సామాజిక చైతన్యాన్ని పొందుతారు .సిద్ధాంతాల ద్వారా కాకుండా , వాస్తవ పరిస్థితులను తెలుసుకోవడం ద్వారా సిద్ధాంతాన్ని సమీక్షించగలరు .	L3,L5
	CO 5	ఆధునిక తెలుగు కల్పనాసాహిత్యం ద్వారా సామాజిక , సాంస్కృతిక , రాజకీయ చైతన్యాన్ని పొందుతారు..	L2, L3
course Name - C8	CO Number	CO	Blooms Taxonomy Level
	CO 1	Explain the basics of three-dimensional geometry, space and drs. and dcs of a line	L2, L3,L4
Solid Geometry	CO 2	Differentiate the concept of plane, different forms of a plane and	L2,L4

		system of planes, Planes bisecting the angles between the given planes and pair of planes	
Maths- 2	CO 3	Observe the concept of lines in three-dimensional space and different forms shortest distance between two skews	L1,L2
	CO 4	Recognise the concept of sphere, great circle, tangent planes, pole, polar orthogonality of two spheres	L1
	CO 5	Understand the concept of cone, generator of a cone, enveloping cone and reciprocal cones	L2
course Name - C9	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	Develop the basics of waves and oscillations, a secure foundation in mathematics.	L6
Physics- II	CO 2	Describe this course would empower the student to acquire knowledge, which helps the student in their everyday life.	L1, L2
	CO 3	Apply the knowledge on the vibrating musical instruments.	L3
	CO 4	Explain the working of medical laboratory instruments.	L2, L3, L4
	CO 5	Discuss about the applications of ultrasonics.	L2
course Name - C10	CO Number	CO	Blooms Taxonomy Level
	CO 1	Understand the difference between carbocation and carbanion	L2,L3
Chemistry-II	CO 2	Understand Inductive effect , mesomeric effect, Hyper conjugation	L2,L3
	CO 3	Understand the preparation and properties of alkenes, alkynes and cyclo alkanes	L2,L3
	CO 4	Understand Hybridization, valence bond theory, Molecular Orbital diagrams	L2,L3

	CO 5	Explain Stereo Chemistry, R,S – Nomenclature, D,L and E,Z-Nomenclature	L2,L5
course Name - C11	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	Speak fluently in English	L1, L2, L4
English - III	CO 2	Participate confidently in any social interaction	L1,L3
	CO 3	Face any professional discourse	L5,L3,L1
	CO 4	Demonstrate critical thinking	L1,L4
	CO 5	Enhance conversational skills by observing the professional interviews	L2,L4
course Name - C12	CO Number	CO	Blooms Taxonomy Level
	CO 1	తెలుగు సాహిత్య అభ్యసన ద్వారా నేర్చుకున్న నైపుణ్యాలను , సృజనాత్మక నైపుణ్యాలుగా మార్చుకోగలరు	L1,L2,L5
Telugu-III	CO 2	విద్యార్థులు భాషాతత్వాన్ని , భాష యొక్క ఆవశ్యకతను , భాష యొక్క ప్రాధాన్యాన్ని గుర్తిస్తారు	L1,L2,
	CO 3	రచనా, భాషానైపుణ్యాలను సృజనాత్మక రూపంలో వ్యక్తీకరించగలరు .	L1,L2,L5
	CO 4	ప్రాచీన పద్యరచనతో పాటు ఆధునిక కవిత ,కథ,వ్యాసం , మొదలైన సాహిత్య ప్రక్రియల	L3,L5
	CO 5	సృజన రంగం , ప్రసార మాధ్యమ రంగాల్లో ఉపాధి అవకాశాలను అందిపుచ్చుకోగలరు .	L2, L3
course Name - C13	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	Identify properties implied by the definitions of groups	L1,L2
Abstract Algebra	CO 2	Recognise the differences between groups and subgroup	L1
Mathematics -III	CO 3	Analyse and demonstrate examples of subgroups, normal subgroups and quotient groups	L4
	CO 4	State the concepts of isomorphism and homomorphism for groups	L1,

	CO 5	Summarize the concept of cyclic groups and its implications	L2,L5
course Name - C14	CO Number	CO	Blooms Taxonomy Level
	CO 1	Summarize the students should have attained a common level in basics of Light.	L2, L5
Physics - III	CO 2	Develop the knowledge on the Powerful tools for tackling a wide range of topics in Optics, Laser, Fiber Optics.	L6
	CO 3	Apply the knowledge on the applications of Lasers and Optical Fibers.	L3
	CO 4	Develop the knowledge on very important and fascinating areas of interference, diffraction and polarization with many experiments associated with it.	L6
	CO 5	Focus the knowledge on the communicating system using Fiber optics.	L4
course Name - C15	CO Number	CO	Blooms Taxonomy Level
	CO 1	Understand P-type, n-type semiconductors	L2, L3
Chemistry - III	CO 2	Study the properties and electronic configuration of transition elements	L3
	CO 3	Study of Nomenclature, preparations , properties and reactivity of alkyl halides	L3
	CO 4	Understand difference between SN1 ,SN2 mechanisms	L2, L3
	CO 5	Understand the Properties and preparations of mono carboxylic acids, di carboxylic acids	L2, L3
Course Name - C16	Course Outcome	CO	Blooms Taxonomy Level
Real Analysis	CO 1	Test the convergence of given sequences using the definitions of	L4,L5,L6

		convergence and various convergence tests	
Mathematics-IV	CO 2	Differentiate various convergence tests to find the convergence of the given series, Alternating series	L2,L4
	CO 3	Distinguish the concepts of limits, Continuity, Discontinuity, Uniform Continuity	L2,L5
	CO 4	Summarize the Mean Value Theorem and the Fundamental Theorem of Calculus to problems in the context of real analysis	L2,L5
	CO 5	Identify various types of the conditions of Riemann Integrability	L1,L2
course Name - C17	CO Number		Blooms Taxonomy Level
	CO 1	Develop the basics of Thermodynamics.	L6
Physics -IV	CO 2	Test the knowledge on the Thermometers.	L4, L5, L6
	CO 3	Describe the production of Low Temperatures and Refrigeration.	L1, L2
	CO 4	Explain the pyrometers and provide Knowledge on Temperature of the Sun.	L2, L3, L4
	CO 5	Write about Mechanical Engines.	L3, L6
course Name - C18	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	To study UV, IR and NMR Spectroscopy	L2, L3
Chemistry-IV	CO 2	Determine the structure of compounds by Spectroscopic methods	L2, L3
	CO 3	Explain the Potentiometric, Conduct metric titrations	L2
	CO 4	Understand the Phase rule, Phase diagram for one component, two component systems	L2, L3
	CO 5	Study about Colligative Properties of the Solutions	L3
course Name - C19	CO Number	CO	Blooms Taxonomy Level

	CO 1	Compare the concepts of Rings, Commutative Rings, Integral Domains, Skew Fields and Fields, Characteristic of a Ring	L2,L4,L5
Mathematics-V	CO 2	Compare the concepts of Subrings, ideals, principal ideals, maximal ideals and prime ideals	L2,L4,L5
Ring theory and vector calculus	CO 3	Differentiate the concept of homomorphism, isomorphisms and linear transformations	L2,L4
	CO 4	Summarize the differential ideas of divergence, curl, and the Laplacian along with their physical interpretations, using differential forms or tensors to represent derivative operations	L2,L5
	CO 5	Evaluate line, surface and volume integrals - both derivation and calculation in rectangular, cylindrical and spherical coordinate systems.	L4
course Name - C20	Course Outcome		Blooms Taxonomy Level
	CO 1	Recognize the concepts of the terms span, linear independence, basis, dimension and apply these concepts to various vector spaces and subspaces	L1
Mathematics-VI	CO 2	Evaluate dimension and rank of the given linear transformations with the given basis	L4,L5
Linear Algebra	CO 3	Compute eigenvectors and the corresponding eigenvalues for the given matrix	L3
	CO 4	Describe the concept of inner product spaces and various results orthogonality	L1
	CO 5	Compute orthonormal basis from the given set of vectors	L3
course Name - C21	CO Number	CO	Blooms Taxonomy Level
	CO 1	Develop the basics of Electronics, Electricity and Magnetism.	L6
Physic -V	CO 2	Develop the knowledge of electrical circuits, electrical connections, and storage devices their working etc.	L6

	CO 3	Test the theoretical and practical knowledge about signal generating circuits enable the students to identify different communication techniques.	L4, L5, L6
	CO 4	Explain about the logic circuits and their applications which enables them to design logic circuits of their own.	L2, L3, L4
	CO 5	Apply the principles of electronics day to day life.	L3
course Name - C22	CO Number	CO	Blooms Taxonomy Level
	CO 1	Develop the basics of properties of particles.	L6
Physics -VI	CO 2	Explain different radioactive devices	L2, L3, L4
	CO 3	Apply the knowledge on bio medical instruments like X-ray, CT scan, MRI etc.,	L3
	CO 4	Develop the knowledge on Crystallography.	L6
	CO 5	Test this course would empower the student to acquire practical knowledge, which helps the student in their everyday life.	L4, L5, L6
course Name - C23	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	Study of Co-ordination compounds and related theories	L2, L3
Chemistry - V	CO 2	Study of Geometrical and Stereo isomerism in Co-ordination Compounds	L2, L3
	CO 3	Get knowledge of Nitrogen compounds (Nitro compounds, Cyanides, Amines)	L2, L3
	CO 4	Understand Thermodynamics First and Second Law	L2, L3
	CO 5	Derive the work done by the system in isothermal reversible process	L6

course Name - C24	CO Number	CO	Blooms Taxonomy Level
	CO 1	Understanding of reaction mechanism in Inorganic Chemistry	L2, L3
Chemistry - VI	CO 2	Get knowledge of Heterocyclic compounds	L2, L3
	CO 3	Study of Preparation and Properties of Amino acids	L5
	CO 4	Derive the rate expression for first and second order kinetics	L6
	CO 5	Draw Jablonski diagram to explain IC,ISC, Phosphorescence , Fluorescence	L4
course Name - C25	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	Analyse and detect different form of errors	L4
Mathematics - VII	CO 2	solve Algebraic and Transcendental equations using different methods.	L3 ,L6
Numerical Analysis	CO 3	Distinguish forward, backward, central, average difference operators and the related problems and difference tables	L2 ,L5
	CO 4	Compare Interpolating functions within the range using equally equal spaced aruguments	L2,L4,L5
	CO 5	Compare Interpolating functions within the range using unequally spaced arguments like lagranges interpolation etc	L2,L4,L5
course Name - C26	CO Number	CO	Blooms Taxonomy Level
	CO 1	Explain the forms of energy, Environmental degradation due to energy production and utilization. Air and water pollution, green-house effect and global warming, acid rain.	L2, L3, L4
Physic - VII	CO 2	Estimate the exponential increase in energy consumption and world's energy	L2, L4, L5

		resources, energy resources available in India, need for use of new and renewable energy sources.	
	CO 3	Describe the working principles of Solar heating system, solar cooker, solar cells. Principle of wind energy conversion. Advantages, disadvantages of wind mills. Applications of wind energy	L1, L2
	CO 4	Develop the basics of ocean energy and its various forms, wave energy technologies and its advantages Hydrogen production methods - Electrolysis of water, uses of hydrogen as fuel.	L6
	CO 5	Observe the conversion of biomass into fuels–energy through fermentation, pyrolysis, gasification and combustion. Properties and characteristics of biogas.	L2
course Name - C27	Course Outcome	CO	Blooms Taxonomy Level
	CO 1	Learn environment pollution and its impact	L1,L3
Chemistry - II	CO 2	Learn causes of environmental pollution such as depletion of natural resources, climate change, ozone depletion	L1,L3
	CO 3	Role of Chemistry in environment pollution	L2,L3
	CO 4	Understand different chemical aspects of Pollution viz: air, water, energy etc	L2,L3
	CO 5	Introduction to different segments of environments and their importance	L1,L3
course Name - C28	CO Number	CO	Blooms Taxonomy Level
	CO 1	Discuss the methods of curve fitting	L2
Mathematics -VIII	CO 2	Differentiate between several types of curves fitting for straight-line, second-degree parabola, power curve, exponential curve	L2,L4

Cluster -1	CO 3	Compute the derivative of function using the given data by the use of interpolation formulae	L3
Advanced Numerical Analysis	CO 4	Explain various formulae of numerical integration and their application	L2 , L3 , L4
	CO 5	Solve the Numerical differential equations	L3 , L6
course Name - C29	CO Number		Blooms Taxonomy Level
	CO 1	Explain about the differential equation of Hermite polynomials and its solution, Generating function, Rodrigue formulae, Orthogonal properties and recurrence formulae	L2 , L3 , L4
Mathematics -IX	CO 2	Explain about the differential equation of Legendre polynomials and its solution, Generating function, Rodrigue formulae, orthogonal properties and recurrence formulae	L2 , L3 , L4
Cluster - II	CO 3	Explain the differential equation of Laugurre polynomials and its solution, Generating function, Rodrigue formulae, Orthogonal properties and recurrence formulae.	L2 , L3 , L4
Special Functions	CO 4	Explain the differential equation of Bessels polynomials and its solution, Generating function, Rodrigue formulae, Orthogonal properties and recurrence formulae	L2 , L3 , L4
	CO 5	Evaluate Gamma and Beta functions and its various forms, Legendre Duplication formula, Relation between Beta and gamma functions, their applications in finding various integrals	L4,L5
course Name - C30	Course Outcome		Blooms Taxonomy Level
	CO 1	Discuss a variety of problem-solving strategies to solve problems	L2
Mathematics - X	CO 2	Test the thinking skills	L4 ,L5,L6

Cluster- 3	CO 3	Adapt effective mathematical communication	L6
Project work	CO 4	Develop mathematical knowledge through problem solving	L6
	CO 5	write Practical applications of the theory subject	L3,L5

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