Telangana Tribal Welfare Residential Degree College for Men, Kamareddy

Sarampally X Road, Kamareddy, 503111

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Department of Mathematics

Course Outcomes

Semester I – Differential and Integral Calculus

On completion of the course, the student will be able:

CO 1	To compare and contrast the ideas of continuity and differentiability.
CO 2	To find maxima and minima, critical points and inflection points of functions and to determine the concavity of curves.
CO 3	To able to evaluate integrals of rational functions by partial fractions.
CO 4	To inculcate to solve algebraic equations and inequalities involving the sequence root and modulus function
CO 5	To differentiate functions of two variables.
CO 6	To compute integrals.

Semester II - Differential equations

On completion of the course, the student will be able:

CO 1	To introduce the students to the technique of solving various problems of engineering and science
CO 2	To find the transforms of derivatives and integrals.
CO 3	To solve basic application problems described by second order linear differential equations with constant coefficients.
CO 4	To solve a homogeneous linear system by the eigenvalue method.
CO 5	To find power series solutions about ordinary points and singular points.
CO 6	To solve basic application problems described by second order linear differential equations with constant coefficients.

Semester III - Real Analysis

On completion of the course, the student will be able to:

CO 1	Understand the concepts of limits, Continuity, Discontinuity, Uniform Continuity.
CO 2	Describe fundamental properties of the real numbers that lead to the formal development of real analysis.
CO 3	Demonstrate an understanding of limits and how they are used in sequences, series, differentiation and integration.
CO 4	Determine if an infinite series is convergent or divergent by selecting the appropriate test from the following: (a) test for divergence; (b) integral test; (c) p -series test; (d) the comparison tests; (e) alternating series test; (f) absolute convergence test; (g) ratio test; and (h) root test.
CO 5	Evaluate the limits of wide class of real sequences.
CO 6	Determine whether or not real series are convergent by comparison with standard series or using the ratio test.

Semester IV - Algebra

On completion of the course, the student will be able to:

CO 1	Understand the importance of algebraic properties with regard to working within various number systems.
CO 2	Extend group structure to finite permutation groups (Cayley's Theorem).
CO 3	Generate groups given specific conditions.
CO 4	Understand the three major concrete models of Boolean algebra: the algebra of sets, the algebra of electrical circuits, and the algebra of logic.
CO 5	Investigate symmetry using group theory.

Semester V - Linear Algebra

CO 1	Linear Algebra emphasizes the concept of vector spaces and linear transformations which are essential in simplifying various scientific problems.
CO 2	It aims at inculcating problem solving skills within students to enable them compute large linear systems.
CO 3	The practical applications of "Linear Algebra" are in demography, archaeology, electrical engineering, fractal geometry and traffic analysis.
CO 4	The student will be able to compute and use determinants, eigenvectors and eigenvalues, orthogonality.
CO 5	The student will be able to solve linear systems represented as linear transforms.
CO 6	The student will be able to recognize the concepts of the terms span, linear independence, basis, and dimension, and apply these concepts to various vector spaces and subspaces

Semester VI - Analytical Solid Geometry

On completion of the course, the student will be able to:

CO 1	Learn sketching of various curves.
CO 2	Learn Concepts of Asymptotes and various types of Asymptotes
CO 3	Understand polar coordinates and its relationship with cartesian coordinates.
CO 4	Learn polar equations of straight lines and conics.
CO 5	Understand symmetry of various curves in polar coordinate system.
CO 6	Learn to find parametric equations of curve
CO 7	Understand relationship between different coordinate systems and plot the curve in Spherical, cylindrical polar coordinates.