



SWR GOVT COLLEGE (W), KALIKIRI

DEPARTMENT OF MATHEMATICS

B.SC.,

(Revised on 2021-2022)

COURSE OUTCOMES

DIFFERENTIAL EQUATIONS - SEMESTER -I

Course Outcomes : After successful completion of this course, the student will be able to;

- Solve linear differential equations
- Convert non-exact homogeneous equations to exact differential equations by using integrating factors.
- Know the methods of finding solutions of differential equations of the first order but not of the first degree.
- Solve higher-order linear differential equations, both homogeneous and non homogeneous, with constant coefficients.
- Understand the concept and apply appropriate methods for solving differential equations.

THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY - SEMESTER-II

Course Outcomes: After successful completion of this course, the student will be able to;

- get the knowledge of planes.
- basic idea of lines, sphere and cones.
- understand the properties of planes, lines, spheres and cones.
- express the problems geometrically and then to get the solution.

ABSTRACT ALGEBRA& ABSTRACT ALGEBRA PROBLEM SOLVING SESSIONS - SEMESTER-III

Course Outcomes: After successful completion of this course, the student will be able to;

- acquire the basic knowledge and structure of groups, subgroups and cyclic groups.
- get the significance of the notation of a normal subgroups.
- get the behavior of permutations and operations on them.
- study the homomorphisms and isomorphisms with applications.
- understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.
- understand the applications of ring theory in various fields

COURSE IV: REAL ANALYSIS- SEMESTER - IV

Course Outcomes: After successful completion of this course, the student will be able to

- get clear idea about the real numbers and real valued functions.
- obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/ series.
- test the continuity and differentiability and Riemann integration of a function.
- know the geometrical interpretation of mean value theorems.

COURSE: V LINEAR ALGEBRA - SEMESTER-IV

Course Outcomes: After successful completion of this course, the student will be able to;

- understand the concepts of vector spaces, subspaces, bases, dimension and their properties
- understand the concepts of linear transformations and their properties
- apply Cayley- Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods
- learn the properties of inner product spaces and determine orthogonality in inner product spaces.

COURSE-6B: MULTIPLE INTEGRALS AND APPLICATIONS OF VECTOR CALCULUS (SKILL ENHANCEMENT COURSE (ELECTIVE) - SEMESTER - V

Learning Outcomes: Students after successful completion of the course will be able to

- Learn multiple integrals as a natural extension of definite integral to a function of two variables in the case of double integral / three variables in the case of triple integral.
- Learn applications in terms of finding surface area by double integral and volume by triple integral.
- Determine the gradient, divergence and curl of a vector and vector identities.
- Evaluate line, surface and volume integrals.
- understand relation between surface and volume integrals (Gauss divergence theorem), relation between line integral and volume integral (Green's theorem), relation between line and surface integral (Stokes theorem)

COURSE-7B: INTEGRAL TRANSFORMS WITH APPLICATIONS (SKILL ENHANCEMENT COURSE (ELECTIVE) - SEMESTER - V

Learning Outcomes: Students after successful completion of the course will be able to

- Evaluate Laplace transforms of certain functions, find Laplace transforms of derivatives and of integrals.
- Determine properties of Laplace transform which may be solved by application of special functions namely Dirac delta function, error function, Bessel function and periodic function.
- Understand properties of inverse Laplace transforms, find inverse Laplace transforms of derivatives and of integrals.
- Solve ordinary differential equations with constant/ variable coefficients by using Laplace transform method.
- Comprehend the properties of Fourier transforms and solve problems related to finite Fourier transforms.