

SPACES DEGREE COLLEGE, PAYAKARAOPETA
DEPARTMENT OF MATHEMATICS
SEMESTER-II (MINOR)
COURSE 1: DIFFERENTIAL EQUATIONS

Course Outcomes:

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

1. solve first order first degree linear differential equations.
2. convert a non-exact homogeneous equation to exact differential equation by using an integrating factor.
3. know the methods of finding solution of a differential equation of first order but not of first degree.
4. solve higher-order linear differential equations for both homogeneous and non-homogeneous, with constant coefficients.
5. understand and apply the appropriate methods for solving higher order differential equations.

SPACES DEGREE COLLEGE, PAYAKARAOPETA
DEPARTMENT OF MATHEMATICS
SEMESTER-III (MINOR)
COURSE 2: GROUP THEORY

Course Outcomes:

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

1. acquire the basic knowledge and structure of groups
2. get the significance of the notation of a subgroup and cosets.
3. understand the concept of normal subgroups and properties of normal subgroup
4. study the homomorphisms and isomorphisms with applications.
5. understand the properties of permutation and cyclic groups.

SPACES DEGREE COLLEGE, PAYAKARAOPETA
DEPARTMENT OF MATHEMATICS
SEMESTER-IV (MINOR)
COURSE 3: RING THEORY

Course Outcomes:

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

1. acquire the basic knowledge of rings, fields and integral domains
2. get the knowledge of subrings and ideals
3. construct composition tables for finite quotient rings
4. study the homomorphisms and isomorphisms with applications.
5. get the idea of division algorithm of polynomials over a field.

SPACES DEGREE COLLEGE, PAYAKARAOPETA
DEPARTMENT OF MATHEMATICS
SEMESTER-IV (MINOR)
COURSE 4: INTRODUCTION TO REAL ANALYSIS

Course Outcomes:

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

1. get clear idea about the real numbers and real value functions.
2. obtain the skills of analysing the concepts and applying appropriate methods for testing convergence of a sequence/ series.
3. test the continuity and differentiability and Riemann integration of a function.
4. know the geometrical interpretation of mean value theorems.
5. know about the fundamental theorem of integral calculus.

SPACES DEGREE COLLEGE, PAYAKARAOPETA
DEPARTMENT OF MATHEMATICS
SEMESTER-V (MINOR)
COURSE 5: LINEAR ALGEBRA

Course Outcomes:

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

1. understand the concepts of vector spaces, subspaces
2. understand the concepts of basis, dimension and their properties
3. understand the concept of linear transformation and its properties
4. apply Cayley- Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods
5. learn the properties of inner product spaces and determine orthogonality in inner product spaces.

SPACES DEGREE COLLEGE, PAYAKARAOPETA
DEPARTMENT OF MATHEMATICS
SEMESTER-V (MINOR)
COURSE 6: VECTOR CALCULUS

Course Outcomes

Students after successful completion of the course will be able to

1. 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.
2. Learn applications in terms of finding surface area by double integral and volume by triple integral.
3. Determine the gradient, divergence and curl of a vector and vector identities.
4. Evaluate line, surface and volume integrals.
5. 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).


CO-ORDINATOR
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