

GOVERNMENT DEGREE COLLEGE-NARASANNAPETA

DEPARTMENT OF MATHEMATICS-2022-2023

COURSE OUTCOMES FOR I B.Sc (MPC/MPCS)

SEMESTER -I

PAPER –I DIFFERENTIAL EQUATIONS

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

1. Solve linear differential equation.
2. Convert non exact homogenous equations to exact differential equations
By using integration factors.
3. Know the methods of finding solutions of differential equations of the
First order but not of the first degree.
4. Solve higher order linear differential equations, both homogenous, with
Constant coefficients.
5. Understand the concept and apply appropriate methods for solving
Differential equations.

SEMESTER -II

PAPER –II THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY

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

1. Get the knowledge of planes.
2. Basic idea of lines, Sphere and Cones.
3. Understand the properties of planes, lines, spheres and cones.
4. Express the problems geometrically and then to get the solution.

COURSE OUTCOMES FOR II B.Sc (MPC/MPCS)

SEMESTER -III

PAPER-III ABSTRACT ALGEBRA

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

1. Acquire the basic knowledge and structure of groups, subgroups and cyclic groups.
2. Get the significance of the notation of a normal subgroups.
3. Get the behavior of permutations and operations on them.
4. Study the homomorphism and isomorphism with applications.
5. Understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.
6. Understand the applications of Ring theory in various fields.

SEMESTER-IV

PAPER-IV REAL ANALYSIS

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

1. Get the clear idea about the real numbers and real valued functions.
2. Obtain the skills of analyzing 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 theorem.

COURSE OUTCOMES FOR II B.Sc (MPC/MPCS)

SEMESTER -IV

PAPER-V LINEAR ALGEBRA

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

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

COURSE OUTCOMES FOR III B.Sc (MPC/MPCS)

SEMESTER -V

LONG TERM INTERNSHIP

COURSE OUTCOMES FOR III B.Sc (MPC/MPCS)

SEMESTER –VI

Course-6B:Multiple integrals and applications of Vector Calculus

(Skill Enhancement Course (Elective), 5credits)

After successful completion of this course the student 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 integrals.**
- 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).**

Course- 7B: Integral transforms with applications

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

- 1. Evaluate Laplace transforms of certain functions, find Laplace transforms of derivatives and of integrals.**
- 2. 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.**
- 3. Understand properties of inverse Laplace transforms, find inverse Laplace transforms of derivatives and of integrals.**
- 4. Solve ordinary differential equations with constant/ variable coefficients by using Laplace transform method.**
- 5. Comprehend the properties of Fourier transforms and solve problems related to finite Fourier transforms.**

