**COURSE OUTCOME OF B.SC 2nd YEAR**

***(Mathematics)***

**SEMESTER -3**

**Paper 1: ADVANCED CALCULUS**

* Having complete knowledge of calculus involving fundamental tools such as limits, continuity and differentiability.
* Evaluating of different indeterminate forms of limits.
* To understand the maxima and minima of a function of 2 variable.
* Knowledge of curvature, locus, Involutes and Evolutes of curves.

**Paper 2: PARTIAL DIFFERENTIAL EQUATION**

* Introduction of PDE and its solutions by different methods.
* Classifying PDE and transform into Canonical forms.
* Derivation of Laplace, heat, wave equations in 2 D.
* Technique of separation of variables to solve PDE and analyze behavior of solutions.

**Paper 3: STATICS**

* Develop an understanding of principles and ability to apply the laws of statics.
* Analyzing composition and resolution of forces, moments and couples.
* Learning about virtual work, wrenches, friction, Centre of gravity and problems based on it.

**SEMESTER -4**

**Paper 1: SEQUENCE AND SERIES**

* Determining the concept of a set, sequence and series and its fundamental properties.
* Dealing with Infinite series and sequence is convergent or divergent by appropriate tests.
* Analyzing the convergence and divergence of alternating and arbitrary series by various tests.

**Paper 2 : SPECIAL FUNCTIONS AND INTEGRAL TRANSFORMS**

* Understanding of integral calculus and special functions of various engineering problems and its applications.
* Learning of Properties of special functions like gamma, beta, Bessel, Legendre, Hermite to evaluate integral calculus problems.
* A deep study of Laplace and Fourier integral transforms.

**Paper 3: PROGRAMMING IN C AND NUMERICALS METHODS**

* To develop programming skills using the fundamentals and basics of C language.
* Learning of how to write an algorithm and perform operations using.
* Derive appropriate numerical methods to solve a system of linear equations.