MATHEMATICS – I

Paper Code	**CEN-305**
Course Credits	**4**
Lectures / week	**3**
Tutorial / week	**1**
Course Description	**UNIT – I** **COMPLEX VARIABLE** Complex number,Arc and diagram, complex functions, limit, continuity and differentiability Cauchy-Reimann equations, harmonic functions, construction of analytic functions, by mile-thomson method, conformal mapping, transformations W=Z", I/z , e, (az+b)/cz=d). **UNIT- II** **FOURIER SERIES** Periodic functions, Fourier series of functions with period 2 change of interval, Half range sine and cosine series. **UNIT- III** **LAPLACE TRANSFORM** Laplace transform, existence theorem, first shift theorem, multiplication and division by T, Laplace transform of deviated inverse Laplace transform, Application to solve Linear differential equations. Unit step function, Dirac delta function-their Laplace transforms, second shifting theorem. Laplace transform of periodic function, Applications. **UNIT- IV** **SERIES SOLUTION OF DIFFERNTIAL EQUATION** Series solution, Frobenious method, Legendre and Bessels equations. **UNIT – V** Linear and non-linear partial differential equation of first order, four standard forms.
References / Text Books:	1. Kreyszig E."Advanced Engineeering Mathaematics".

2. Prasad C,"Advanced Engineering Mathematics".
3. Pati T."Functions of Complex Variables".

Computer Usage / Software Requires: