III Semester (2018-19)

15UDIP300	**Engineering Mathematics(Diploma)**	**(4 - 0 - 0) 4 : 52 Hrs.**

CIE Marks: 50

1) Differential Calculus:

Differentiation of n^{th} order of standard functions, Leibnitz theorem, (Statement only) with examples, polar curves, Taylor's series, Maclauri's series of simple functions for single variable.

Partial Differentiation:Definition, Euler theorem, total differentiation, Differentiation of composite and implicit fuctions, Jacobians illustrative examples and problems.

12hrs.

2) Integral Calculus:

Reduction formula for functions Sin^nx,cos^nx,sin^nxcos^mx. Double interal, simple problems, 7 Triple integral simple problem (with standard limits), **β**,y functions, properties, relation between **β** & Y functions simple problems **10hrs.**

3) Differential Equations:

Solution of first order, first degree differential equations – variable separable methods homogenous equation, Bernoulli's and exact diffeential equations (without IF) Differential equations of second and higher orders with constant co-efficient.

10 hrs.

4) Vectors:

Vector differentiation, Velocity,Acceleratrion of a vector point function,gradient, and divergence, solenoidal and irrotational fields, simple and direct problems. **6hrs.**

5) Laplace transforms:

Definitions, Laplace transforms of elementary functions, derivatives and integrals, inverse, transforms, Applications of Laplace transforms to differential equation.

12hrs.

TEXT BOOKS

01. Higher Engineering Mathematics - B.S Grewal
02. Higher Engineering Mathematics - H.K Das

Note: 1. Grades i) PP
ii)NP

2. No End Semester Examination

3.No Credits (Bridge Couse)