

VIKRAMA SIMHAPURI UNIVERSITY::NELLORE
I YEAR OF FOUR YEAR B.TECH DEGREE COURSE
(COMMON TO ALL BRANCHES)

(With effect from the Academic Year 2010-2011)

10MA102-Engineering Mathematics-II

Hours /week : 4 Hrs
Credits : 8

Sessional Marks : 40
End Examination Marks : 60

UNIT – I

Ordinary Differential Equations: Linear Differential Equations of second and higher order with constant coefficients- method of variation of parameters- equations reducible to linear equations with constant coefficients- Cauchy's linear equations –Legendre's linear equation.

UNIT – II

Laplace Transformation: Laplace Transformations of standard functions- properties of Laplace Transformation- Transformation of derivatives and integrals- initial and final value theorems- transforms of unit step function and impulse function – transform of periodic functions.

UNIT – III

Inverse Laplace Transformation: Inverse transforms- unit step function- dirac's delta function- convolution theorem- transforms of periodic functions- application to solutions of ordinary differential equations.

UNIT-IV

Fourier Series: Determination of Fourier coefficients- Fourier series- even and odd functions- change of intervals- half range sine and cosine series- complex form of Fourier series- parseval's formula.

UNIT-V

Fourier Transforms: Fourier Integral Theorem- Fourier sine and cosine integral- fourier integral in complex form – finite and infinite fourier transforms- fourier sine and cosine transforms- properties- inverse transforms.

Text Books:

1. Higher Engineering Mathematics –B S Grewal
2. Engineering Mathematics- B V Ramana
3. Engineering Mathematics- M K Venkata Raman

Reference Books:

1. Advanced Engineering Mathematics- H K Das
Advanced Engineering Mathematics- N P Bali and M Goyal.