COURSE TEACHING STRUCTURE
Course: Engineering Mathematics-3

Dept: ELECTRONIC AND TELECOMMUNICATION ENGINEERING Class: SE

UNIT 1: LINEAR DIFFERENTIAL EQUATION
MARKS: 16
LECTURE: 12 HOURS

SR NO	TOPIC	DURATION	TOPIC BASED	MARKING SKIM
1	Complementory Function	1 Hr	Numerical	3
2	Perticular Integral	15 Min	Theoretical	0
3	General Method	1.15 Hrs	Numerical	6
4	Shortcut Methods	4.30 Hrs	Numerical	13
5	Method Of Variation Of Parameters	1.45 Hrs	Numerical	7
6	Cauchy's DE	50 Min	Numerical	7
7	Legender's DE	40 Min	Numerical	7
8	Simultaneous DE	1 Hrs	Numerical	6
9	Symmetric Simultaneous DE	45 Min	Numerical	5

UNIT 2: TRANSFORMS
MARKS: 14
LECTURE: 09 HOURS

SR NO	TOPIC	DURATION	TOPIC BASED	MARKING SKIM
	FOURIER TRANSFORM			
1	Fourier Integral Theorem	1 Hr	Numerical	5
2	Fourier Sine & Cosine Integrals	1 Hr	Numerical	5
3	Fourier Transform	40 Min	Numerical	5
4	Fourier Sine Inverse	45 Min	Numerical	4
5	Fourier Cosine Inverse	30 Min	Numerical	4
6	Discrete Fourier Transform	40 Min	Numerical	5
	Z - TRANSFORM			
1	Defination	10 Min	Theoretical	0
2	Standard Properties	1.30 Hrs	Numerical	5
3	ZT Of Standard Sequences And Theire Inverses	1.40 Hrs	Numerical	4

4	Solution Of Difference Equations	1.05 Hrs	Numerical	5

UNIT 3: NUMERICAL METHODS
MARKS: 18
LECTURE: 09 HOURS

SR NO	TOPIC	DURATION	TOPIC BASED	MARKING SKIM
1	Finite Difference	30 Min	Numerical	6
2	Newton's Interpolation	1.10 Hrs	Numerical	6
3	Lagrange's Interpolation	50 Min	Numerical	5
4	Trapezoidal Rule	35 Min	Numerical	5
5	Simpson's Rule	1 Hr	Numerical	7
6	Bound Of Truncation Error	35 Min	Numerical	7
7	Euler's Method	1 Hr	Numerical	7
8	Modified Euler's Method	1.30 Hrs	Numerical	7
9	Runge Kutta 4th Order	1.30 Hrs	Numerical	7
10	Predictor Corrector Method	20 Min	Numerical	6

UNIT 4: VECTOR DIFFRENTIAL CALCULUS
MARKS: 18
LECTURE: 13 HOURS

SR NO	TOPIC	DURATION	TOPIC BASED	MARKING SKIM
1	Vector Differentiation - Gradient, Divergence And Curl	4 Hrs	Numerical	7
2	Directional Derivative	3 Hrs	Numerical	7
3	Solenoidal And Irrotational Fields	3 Hrs	Numerical	5
4	Vector Identities	3 Hrs	Numerical	6

UNIT 5: VECTOR INTEGRAL CALCULUS & APPLICATIONS
MARKS: 18
LECTURE: 13 HOURS

SR NO	TOPIC	DURATION	TOPIC BASED	MARKING SKIM
1	Line, Surface And Volume Integrals	2 Hrs	Numerical	6
2	Work-Done	2 Hrs	Numerical	6
3	Green's Lemma	1 Hr	Numerical	6

4	Gauss's Divergence Theorem	3 Hrs	Numerical	7
5	Stoke's Theorem	3 Hrs	Numerical	6
6	Application To Problems In Electro-Magnetic Fields	2 Hrs	Derivations	6

UNIT 6: COMPLEX VARIABLES
MARKS: 18
LECTURE: 12 HOURS

SR NO	TOPIC	DURATION	TOPIC BASED	MARKING SKIM
1	Analytic Functions	2 Hrs	Numerical	6
2	Cauchy-Riemann Equations	2 Hrs	Numerical	7
3	Conformal Mapping	2 Hrs	Numerical	8
4	Bilinear Transformation	2 Hrs	Numerical	7
5	Cauchy's Integral Theorem	2 Hrs	Numerical	7
6	Cauchy's Integral Formula And Residue Theorem	2 Hrs	Numerical	6