Bhoj Reddy Engineering College for Women, Hyderabad.
Lesson Plan for the Academic year 2015-16

Name of the Faculty:T.Suresh **Department:BS**
Subject: Mathematical Methods **Branch: ECE-A**
No. of Lectures per Week: 4

S. No	Date	Topic to be covered
		UNIT-1: Interpolation and curve fitting
1.	12/8/2015	Introduction, Errors in Polynomial Interpolation
2.	14/8	Finite differences: Forward differences-Backward Differences
3.	18/8	Central differences
4.	19/8	Symbolic relations and separation of symbols
5.	21/8	Symbolic relations and separation of symbols
6.	22/8	Differences Equations
7.	25/8	Examples on Newton's Interpolation formula
8.	26/8	Central difference Interpolation formula, Guass forward Interpolation formula
9.	28/8	Problems on Guass forward Interpolation formula
10.	29/8	Problems on Guass forward Interpolation formula
11.	1/9	Guass backward Interpolation formula
12.	2/9	Problems on Guass backward Interpolation formula
13.	4/9	Interpolation with unevenly spaced points Lagranges Interpolation formula
14.	5/9	B. Spline Interpolation
15.	8/9	Cubic Spline
16.	9/9	Curve fitting: Fitting a straight line
17.	11/9	Problems on second degree curve, Exponential curve, Power Curve by method of least squares
		UNIT II:Numerical Techniques:
18.	12/9	Solution of Algebraic And Transecendental Equations, Introduction-Graphical interpretation of solution of equations
19.	15/9	The Bisection Method
20.	16/9	The Bisection method
21.	18/9	The Method of False Position
22.	19/9	The Method of False Position
23.	22/9	The Iteration Method
24.	23/9	The Iteration Method
25.	25/9	Newton Raphson Method
26.	26/9	Solving system of non-homogenous equations by L-U Decomposition Method,Crout's Method
27.	29/9	Jacobi's Method
28.	30/9	Guass seidal Iteration method
29.	3/10	Numerical differentiation
30.	6/10	Numerical Integration – Trapezoidal rule Simpson's rule
31.	7/10	Simpson's rule
32.	9/10	Generalized Quadrature

33.	10/10	Numerical solution of ordinary differential equation Solution by Taylor's series method
34.	27/10	Taylos method
35.	28/10	Picards method
36.	30/10	Eulers method
37.	31/10	Modified Eulers method
38.	3/11	Runge kutta method
39.	4/11	Runge kutta method
40.	6/11	Adams Bashforth method
41.	7/11	Adams Bashforth method
42.	10/11	Milne,s Method
43.	13/11	Milne's Method
44.	14/11	Revision
		UNIT III: Fourier series and Fourier transforms:
45.	17/11	Determination of Fourier coefficients
46.	18/11	Fourier expansion of periodic function in a given interval of length 2Π
47.	20/11	Fourier expansion of periodic function in a given interval of length 2Π
48.	21/11	Fouriers series of even and odd functions
49.	24/11	Problems on Fourier series even and odd functions
50.	25/11	Even &Odd periodic functions
51.	27/11	Even &Odd periodic functions
52.	28/11	Fourier series in an arbitrary interval
53.	1/12	Even &Odd periodic functions
54.	2/12	Even &Odd periodic functions
55.	4/12	Half range Sine & Cosine Expansions
56.	5/12	Half range Sine & Cosine Expansions
57.	8/12	Fourier Integral Theorem
58.	9/12	Fourier Sine & Cosine Integral
59.	11/12	Fourier Sine&Cosine Integral
60.	12/12	Fourier Transforms
61.	15/12	Problems on Fourier Transforms
62.	16/12	Fourier Sine & Cosine Transforms
63.	18/12	Fourier Sine & Cosine Transforms
64.	19/12	Properties
65.	22/12	Inverse Transforms
66.	23/12	Inverse Transforms
67.	26/12	Finite Fourier Transforms
68.	29/12	Revision
69.	30/12	Revision
		Unit IV Partial Differential Equation:
70.	1/1/2016	Introduction and formation of PDE by elimination of arbitrary constants .
71.	2/1	Formation of PDE by elimination of arbitrary constants .
72.	12/1	PDE by elimination of arbitrary Functions
73.	13/1	PDE by elimination of arbitrary Functions
74.	16/1	Solution of first order linear equations-Lagranges Equation
75.	19/1	Solution of first order linear equations-Lagranges Equation
76.	20/1	Non linear equations -Charpits method

77.	22/1	Problems on Charpits method
78.	23/1	Method of separation of variables for second order equations
79.	27/1	Method of separation of variables for second order equations
80.	29/1	Two dimension wave equation
81.	30/1	Two dimension wave equation
82.	2/2	Heat equation
83.	3/2	Problems on Heat equation
84.	5/2	Problems on Heat equation
85.	6/2	Revision
		Unit V Vector calculus
86.	9/2	Introduction, Scalar point function, Vector point function, Gradient,
87.	10/2	Problems on angles
88.	12/2	Problems on gradient
89.	13/2	Divergence,
90.	16/2	Curl
91.	17/2	Problems on Grad,Div,Curl
92.	19/2	Properties on Grad,Div& Curl
93.	20/2	Laplacian operators
94.	23/2	Line integral, work done
95.	24/2	Problems on Line integral, work done
96.	27/2	Problems on Line integral, work done
97.	1/3	Green's theorem
98.	2/3	Problems on Green's theorem
99.	4/3	Problems on Green's theor
100.	5/3	Stokes theore
101.	8/3	Problems on Stokes theorem
102.	9/3	Problems on Stokes theorem
103.	11/3	Guass Divergence theorem
104.	12/3	Problems on Guass Divergence theorem
105.	15/3	Problems on Guass Divergence theorem
106.	16/3	Revision
107.	18/3	Revision
108.	19/3	Revision

Signature of the Faculty