Bhoj Reddy Engineering College for Women: Hyderabad
Department of Basic Sciences
Lesson plan of faculty member for the academic year 2016–17

Class: I B Tech Branch-Section: EEE Semester: II
Subject: **MATHEMATICS-II** Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
Unit-I: Laplace Transforms		
1	Introduction on Laplace transforms.	3 January 2017
2	Laplace transforms of standard functions	4 January 2017
3	Problems on Laplace transforms of standard functions	6 January 2017
4	Shifting theorems and their problems on Laplace transforms	7 January 2017
5	Problems on Shifting theorems	9 January 2017
6	Tutorial (G1, G2, G3):Derivatives and integrals and Problems on Laplace transforms	10 January 2017
7	Properties- Unit step function, Dirac's delta function, Periodic function	11 January 2017
8	Problems on Unit step function, Dirac's delta function, Periodic function	16 January 2017
9	Tutorial (G1, G2, G3):Introduction on Inverse Laplace transforms	17 January 2017
10	Shifting theorems and Problems on Inverse Laplace transforms	18 January 2017
11	Derivatives and integrals and Problems on Inverse Laplace transforms	20 January 2017
12	Problems on Derivatives and integrals	21 January 2017
13	Convolution theorem and Problems	23 January 2017
14	Tutorial (G1, G2, G3):Problems on Convolution theorem	24 January 2017
15	Applications: Solving ordinary differential equations (initial value problems) using Laplace transforms	25 January 2017
16	Problems on Solving ordinary differential equations by L.T	27 January 2017
17	Revision	28 January 2017
Unit-II: Beta and Gamma Functions		
18	Introduction on Beta and Gamma functions	30 January 2017
19	Tutorial (G1, G2, G3):Gamma function and its properties	31 January 2017
20	Beta function and its properties	1 February 2017
21	Relation between gamma and beta function	3 February 2017
22	Problems related to Beta function	4 February 2017
23	Problems related to Gamma function	6 February 2017
24	Tutorial (G1, G2, G3):Multiple Integrals – double and triple integrals	7 February 2017
25	Problems on double and triple integrals	8 February 2017
26	Change of order of integration and its problems	10 February 2017
27	Changes of variables into polar form and its problems	11 February 2017
28	Changes of variables into cylindrical form and its problems	13 February 2017
29	Tutorial (G1, G2, G3):Changes of variables into spherical form and its problems	14 February 2017
30	Finding the area of a region using double integration and its problems	15 February 2017
31	Finding the volume of a region using triple integration and its problems	17 February 2017

32	Revision	18 February 2017
Unit-III: Multiple Integrals		
33	Gamma function and its properties	20 February 2017
34	Tutorial (G1, G2, G3):Beta function and its properties	21 February 2017
35	Relation between Gamma and Beta function	22 February 2017
36	Problems related to Beta function	25 February 2017
37	Problems related to Gamma function	27 February 2017
38	Tutorial (G1, G2, G3):Problems related to Beta and Gamma functions	28 February 2017
39	Multiple Integrals – double and triple integrals	1 March 2017
40	Problems on double and triple integrals	3 March 2017
41	Problems on double and triple integrals	4 March 2017
42	Change of order of integration and its problems	10 March 2017
43	Changes of variables into polar form and its problems	11 March 2017
44	Changes of variables into cylindrical form and its problems	13 March 2017
45	Tutorial (G1, G2, G3):Changes of variables into spherical form and its problems	14March 2017
46	**Applications:** Finding areas, volumes & Center of gravity (evaluation using Beta and Gamma functions	15 March 2017
47	Problems on applications of Beta and Gamma functions	17 March 2017
48	Revision	18 March 2017
UNIT–IV : Vector Differentiation		
49	Introduction, Scalar point function, Vector point function,	20 March 2017
50	Tutorial (G1, G2, G3):Problems on Scalar point function, Vector point function	21 March 2017
51	Problems on Scalar point function, Vector point function	22 March 2017
52	Gradient, Divergence, Curl and their physical and geometrical interpretation	24 March 2017
53	Problems on Gradient, Divergence	25 March 2017
54	Problems on Curl of Vector point function	27 March 2017
55	Tutorial (G1, G2, G3):Properties on Solenoidal, Irrotational vector, Potential function	28 March 2017
56	Laplacian operators and problems	31 March 2017
57	Problems on Laplacian operators	1 April 2017
58	Problems on Gradient, Divergence, Curl	3 April 2017
59	Tutorial (G1, G2, G3):Problems on Gradient, Divergence, Curl	4 April 2017
60	Revision	7 April 2017
61	Revision	8 April 2017
UNIT–V : Vector Integration		
62	Line integral, work done by force	10 April 2017
63	Tutorial (G1, G2, G3):Problems on work done by force	11 April 2017
64	Problems on work done by force	12 April 2017
65	Surface Integral	15 April 2017
66	Problems on Surface Integral	17 April 2017
67	Tutorial (G1, G2, G3):Problems on Surface Integral	18 April 2017
68	Volume Integral	19 April 2017
69	Problems on Volume Integral	21 April 2017
70	Potential function and Problems	22 April 2017
71	Guass Divergence theorem	24 April 2017
72	Tutorial (G1, G2, G3):Problems on Guass Divergence theorem	25 April 2017
73	Problems on Guass Divergence theorem	26 April 2017
74	Green's theorem	28 April 2017

75	Problems on Green’s theorem	29 April 2017
76	Stoke's theorem	1 May 2017
77	Tutorial (G1, G2, G3):Problems on Stoke's theorem	2 May 2017
78	Problems on Stoke's theorem	3 May 2017
79	Problems on Stokes theorem	5 May 2017
80	Revision	6 May 2017
81	Revision	8 May 2017
82	Tutorial (G1, G2, G3):Revisiom	9 May 2017

Text Books:

1. Advanced Engineering Mathematics by R K Jain & S R K Iyengar, Narosa Publishers
2. Engineering Mathematics by Srimanthapal and Subodh C. Bhunia, Oxford Publishers

References:

1. Advanced Engineering Mathematics by Peter V. O. Neil, Cengage Learning Publishers.
2. Advanced Engineering Mathematics by Lawrence Turyn, CRC Press

Name and signature of the faculty: T.Suresh ----

Name and signature of Head of the Department: Mrs K.Padma ----