

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: ECE-B

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.	4 January 2017
2	Laplace transforms of standard functions	5 January 2017
3	Problems on Laplace transforms of standard functions	6 January 2017
4	Tutorial (G1, G2, G3): Shifting theorems and their problems on Laplace transforms	7 January 2017
5	Problems on Shifting theorems	7 January 2017
6	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	12 January 2017
9	Introduction on Inverse Laplace transforms	18 January 2017
10	Shifting theorems and Problems on Inverse Laplace transforms	19 January 2017
11	Derivatives and integrals and Problems on Inverse Laplace transforms	20 January 2017
12	Tutorial (G1, G2, G3): Problems on Derivatives and integrals	21 January 2017
13	Convolution theorem and Problems	21 January 2017
14	Problems on Convolution theorem	25 January 2017
15	Applications: Solving ordinary differential equations (initial value problems) using Laplace transforms	27 January 2017
16	Tutorial (G1, G2, G3): Problems on Solving ordinary differential equations by L.T	28 January 2017
17	Revision	28 January 2017
Unit-II: Beta and Gamma Functions		
18	Introduction on Beta and Gamma functions	1 February 2017
19	Gamma function and its properties	2 February 2017
20	Beta function and its properties	3 February 2017
21	Tutorial (G1, G2, G3): Relation between gamma and beta function	4 February 2017
22	Problems related to Beta function	4 February 2017
23	Problems related to Gamma function	8 February 2017
24	Multiple Integrals – double and triple integrals	9 February 2017
25	Problems on double and triple integrals	10 February 2017
26	Tutorial (G1, G2, G3): Change of order of integration and its problems	11 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	15 February 2017
29	Changes of variables into spherical form and its problems	16 February 2017
30	Finding the area of a region using double integration and its problems	17 February 2017
31	Tutorial (G1, G2, G3): Finding the volume of a region using triple integration and its problems	18 February 2017

32	Revision	18 February 2017
Unit-III: Multiple Integrals		
33	Gamma function and its properties	22 February 2017
34	Beta function and its properties	23 February 2017
35	Tutorial (G1, G2, G3):Relation between Gamma and Beta function	25 February 2017
36	Problems related to Beta function	25 February 2017
37	Problems related to Gamma function	1 March 2017
38	Problems related to Beta and Gamma functions	2 March 2017
39	Multiple Integrals – double and triple integrals	3 March 2017
40	Tutorial (G1, G2, G3):Problems on double and triple integrals	4 March 2017
41	Problems on double and triple integrals	4 March 2017
42	Change of order of integration and its problems	9 March 2017
43	Changes of variables into polar form and its problems	10 March 2017
44	Tutorial (G1, G2, G3):Changes of variables into cylindrical form and its problems	11 March 2017
45	Changes of variables into spherical form and its problems	11 March 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	16 March 2017
48	Revision	17 March 2017
UNIT-IV : Vector Differentiation		
49	Tutorial (G1, G2, G3):Introduction, Scalar point function, Vector point function,	18 March 2017
50	Problems on Scalar point function, Vector point function	18 March 2017
51	Problems on Scalar point function, Vector point function	22 March 2017
52	Gradient, Divergence, Curl and their physical and geometrical interpretation	23 March 2017
53	Problems on Gradient, Divergence	24 March 2017
54	Tutorial (G1, G2, G3):Problems on Curl of Vector point function	25 March 2017
55	Properties on Solenoidal, Irrotational vector, Potential function	25 March 2017
56	Laplacian operators and problems	30 March 2017
57	Problems on Laplacian operators	31 March 2017
58	Tutorial (G1, G2, G3):Problems on Gradient, Divergence, Curl	1 April 2017
59	Problems on Gradient, Divergence, Curl	1 April 2017
60	Problems on Gradient, Divergence, Curl	6 April 2017
61	Revision	7 April 2017
62	Tutorial (G1, G2, G3):Revision	8 April 2017
UNIT-V : Vector Integration		
63	Line integral, work done by force	8 April 2017
64	Problems on work done by force	12 April 2017
65	Problems on work done by force	13 April 2017
66	Tutorial (G1, G2, G3):Surface Integral	15 April 2017
67	Problems on Surface Integral	15 April 2017
68	Problems on Surface Integral	19 April 2017
69	Volume Integral	20 April 2017
70	Problems on Volume Integral	21 April 2017
71	Tutorial (G1, G2, G3):Potential function and Problems	22 April 2017
72	Guass Divergence theorem	22 April 2017
73	Problems on Guass Divergence theorem	26 April 2017
74	Problems on Guass Divergence theorem	27 April 2017
75	Green's theorem	28 April 2017

76	Tutorial (G1, G2, G3):Problems on Green's theorem	29 April 2017
77	Stoke's theorem	29 April 2017
78	Problems on Stoke's theorem	3 May 2017
79	Problems on Stoke's theorem	4 May 2017
80	Discussion of Question papers	5 May 2017
81	Tutorial (G1, G2, G3):Revision	6 May 2017
82	Revision	6 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 ----