

# Bhoj Reddy Engineering College for Women: Hyderabad

## Department of Mathematics

Lesson plan of faculty member for the academic year 2017–18

Class: II B Tech

Branch: EEE

Semester: I

Subject: Mathematics - IV

Lectures per week: 4 + 1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
<b>UNIT – I: Functions of a Complex variable</b>		
1	Introduction to complex functions	12 July 2017
2	<b>Tutorial:</b> Problems on Concepts of Limit, Continuity, Differentiability	13 July 2017
3	Analyticity, Cauchy – Riemann equations in Cartesian coordinates	14 July 2017
4	CR equations in polar coordinates	15 July 2017
5	Problems on C-R equations	19 July 2017
6	<b>Tutorial:</b> Problems on Harmonic and Conjugate Harmonic Functions	20 July 2017
7	Milne Thompson Method	21 July 2017
8	Problems on Milne Thompson Method	22 July 2017
9	Problems on Milne Thompson Method	24 July 2017
10	Problems on C-R Equations	26 July 2017
<b>UNIT-II: Complex Integration</b>		
11	<b>Tutorial:</b> Problems on Line Integral - evaluation along a path	27 July 2017
12	Line Integral Evaluation by Indefinite Integration	28 July 2017
13	Cauchy's Integral Theorem	29 July 2017
14	Cauchy's Integral Theorem & problems	31 July 2017
15	Problems on Cauchy's Integral Formula	02 August 2017
16	<b>Tutorial:</b> Problems on Generalized Integral Formula	03 August 2017
17	Generalized Integral Formula	04 August 2017
18	Power Series: Taylor's series	05 August 2017
19	Problems on Taylor's series	07 August 2017
20	Laurent series	09 August 2017
21	<b>Tutorial:</b> Problems on Laurent series	10 August 2017
22	Singular Point, Isolated Singular Point	11 August 2017
23	Problems on Pole, Pole of Order m	12 August 2017
24	Essential Singularity	16 August 2017
25	<b>Tutorial:</b> Problems on Residues	17 August 2017
26	Evaluation of Residue by Formula	18 August 2017
27	Cauchy Residue Theorem	19 August 2017
28	Problems on Residue Theorem	21 August 2017
29	Revision	23 August 2017
<b>UNIT-III: Evaluation of Integrals</b>		
30	<b>Tutorial:</b> Problems on Evaluation of Integral of the type $\int f(x)dx$	24 August 2017
31	Evaluation of Integral of the type $\int f(x)dx$	26 August 2017
32	Evaluation of Integral of the type $\int f(x)dx$	28 August 2017
33	Evaluation of Integral of the type $\int f(\cos\theta, \sin\theta)d\theta$	30 August 2017
34	<b>Tutorial:</b> Problems on Evaluation of Integral of the type $\int f(\cos\theta, \sin\theta)d\theta$	31 August 2017
35	Revision	01 September 2017
36	Evaluation of Integral by type $\int f(\cos\theta, \sin\theta)d\theta$	04 September 2017
37	Bilinear Transformation	09 September 2017
38	Fixed Point of bilinear transformation	11 September 2017
39	Cross ratio property of bilinear transformation and problems	13 September 2017
40	<b>Tutorial:</b> Problems on Properties of bilinear transformation	14 September 2017
41	Invariance of Circles	15 September 2017
<b>UNIT-IV: Fourier series and Fourier transforms</b>		
42	Introduction of Fourier Series and Periodic functions	16 September 2017
43	Problems on Fourier series even and odd functions	18 September 2017

44	<b>Tutorial:</b> Problems on Fourier Series of periodic functions	21 September 2017
45	Fourier series of even and odd functions	22 September 2017
46	Problems on Fourier series even and odd functions	23 September 2017
47	Even & Odd periodic functions	04 October 2017
48	<b>Tutorial:</b> Problems on Even & Odd periodic functions	05 October 2017
49	Fourier series in an arbitrary interval	06 October 2017
50	Even & Odd periodic functions	07 October 2017
51	Even & Odd periodic functions	09 October 2017
52	Half range Sine & Cosine Expansions	11 October 2017
53	<b>Tutorial:</b> Problems on Half range Sine & Cosine Expansions	12 October 2017
54	Fourier Integral Theorem	13 October 2017
55	Problems on Fourier Sine & Cosine Integral	14 October 2017
56	Fourier Sine & Cosine Integral	16 October 2017
57	<b>Tutorial:</b> Problems on Fourier Transforms	19 October 2017
58	Problems on Fourier Transforms	20 October 2017
59	Fourier Sine & Cosine Transforms	21 October 2017
60	Fourier Sine & Cosine Transforms	23 October 2017
61	Properties	25 October 2017
62	<b>Tutorial:</b> Problems on Inverse Transforms	26 October 2017
63	Inverse Transforms	27 October 2017
64	Finite Fourier Transforms	28 October 2017
<b>UNIT-V: Applications of PDE</b>		
65	Classification of second order Partial Differential Equations	30 October 2017
66	Classification of second order Partial Differential Equations	01 November 2017
67	<b>Tutorial:</b> Problems on Method of separation of Variables	02 November 2017
68	Problems on Method of separation of Variables	03 November 2017
69	Solution of one dimensional wave equation, heat equation	06 November 2017

**Text books:**

1. Higher Engineering Mathematics by Dr B S Grewal , Khanna publishers.
2. A text book of Engineering Mathematics by N P Bali, Manesh Goyal.
3. Engineering Mathematics-IV by T K V Iyengar and B Krishna Gandhi.

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

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