

# Bhoj Reddy Engineering College for Women: Hyderabad

Department of on Engineering

Lesson plan of faculty member for the academic year 2016–17

Class: II B Tech

Branch-Section: IT-A

Semester: I

Subject: **Probability and Statistics**

Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
<b>UNIT – I: Single Random Variables and Probability Distributions</b>		
1	Random Variables-Discrete and Continuous	13 June 2016
2	Mass function/Density function of a Probability distribution and its problems.	14 June 2016
3	Mathematical expectation, Moment about origin. Central moments	15 June 2016
4	Tutorial (G2,G1,G3) - Examples of p.m.f. & p.de.f., mean ,variance	15, 16, 17 June 2016
5	Moment generating function of Probability distributions	18 June 2016
6	Binomial Distribution, Mean and Variance of B.D.	20 June 2016
7	Problems of B.D.	21 June 2016
8	Poisson Distribution, Mean and Variance of P.D.	23 June 2016
9	Tutorial (G2, G1, G3) - Problems on P.D	22, 23, 24 June 2016
10	Normal Distribution, Standard N.D.,Properties of N.D./S.N.D.	25 June 2016
11	.Mean and Variance of N.D	27 June 2016
12	Moment generating functions of B.D ,P.D and N.D.	28 June 2016
13	Problems of M.G.F.	29 June 2016
<b>UNIT-II: Multiple Random Variables ,Correlation and Regression</b>		
14	Joint Probability Distributions , Joint Probability Mass/Density function	30 June 2016
15	Tutorial (G2,G1,G3) –Problems on Joint probability.	29, 30 June, 1 July 2016
16	Marginal probability Mass/Density function.	2 July 2016
17	Covariance of two random variables and its problems.	4 July 2016
18	Correlation, Coefficient of correlation & multiple correlation	5 July 2016
19	Problems of correlation.	9 July 2016
20	The rank correlation & examples	11 July 2016
21	Regression, Regression coefficient.	12July 2016
22	The lines of regression and multiple correlation.	15 July 2016
23	Tutorial (G2,G1,G3) - Properties of correlation & regression.	13,14,15 July 2016
24	Revision	16 July 2016
<b>UNIT-III: Sampling Distributions and Testing of Hypothesis</b>		
25	<b>Sampling:</b> Definitions of population, sampling ,statistic , parameter and types of sampling	16 July 2016
26	Examples of regression.	17July 2016
27	Expected values of sample mean and variance ,sampling distribution, standard error and its problems	19July 2016
28	Tutorial (G2,G1,G3) - Sampling distribution of means , variances and its problems	20, 21, 22 July 2016
29	<b>Parameter Estimations:</b> likelihood estimation, interval estimation and problems.	22 July 2016
30	<b>Testing Hypothesis:</b> Null hypothesis, alternative hypothesis ,type-I and type-II errors, critical regions	23 July 2016
31	Examples of estimations	25 July 2016
32	Confidence interval , level of significance , one sided test,	26 July 2016

	two sided test	
33	<b>Large sample tests:</b> Equality of sample mean and population mean and problems	27 July 2016
34	Tutorial (G2,G1,G3) - Test of equality of means of two samples	27,28,29 July 2016
35	Examples of one mean & two means	30 July 2016
36	Tests of significance of difference between sample St.De. and population St.De.	2 August 2016
37	Examples of St.De.	3 August 2016
38	Tutorial (G2,G1,G3) –Tests of significance of difference between sample proportion and population proportion	3, 4, 5 August 2016
39	Difference between two sample proportions and its problems	6 August 2016
40	<b>Small sample tests:</b> Student t-distribution, its properties and problems	16 August 2016
41	Tests of significance of difference between sample mean and population mean and its problems	17 August 2016
42	Tutorial (G2,G1,G3 ) – Difference between means of two small samples and its problems	17, 18, 19 August 2016
43	Snedecor's F- distribution and its properties.	20 August 2016
44	Problems of t & F-distributions	22 August 2016
45	Test of equality of two population variances, Chi-square distribution and its properties	23 August 2016
46	Problems of Chi-square distribution	24 August 2016
47	Chi-square test of goodness of fit and its problems	27 August 2016
<b>UNIT-IV: Queuing Theory</b>		
48	Structure of queuing system Operating characteristics of queuing system and its problems	29 August 2016
49	Transient and steady states, terminology of queuing systems	30 August 2016
50	Arrival and service processes and problems	31 August 2016
51	Tutorial (G2,G1,G3) - Pure Birth-Death process and its problems	31 August, 1, 2 September 2016
52	Deterministic queuing models-M/M/I, model of infinite queue	3 September 2016
53	Problem on M/M/I model of infinite queue	6 September 2016
54	Properties of M/M/I model, examples	7 September 2016
55	Tutorial (G2,G1,G3 ) – M/M/I model of finite queue	7,8,9 September 2016
56	Properties of M/M/I model of finite queue, examples	10 September 2016
57	Problems on M/M/I model of finite queue	13 September 2016
<b>UNIT-V: Stochastic Processes:</b>		
58	Introduction to stochastic processes	14 September 2016
59	Tutorial (G2,G1,G3) - stochastic processes	14,15,16 September 2016
60	Classification of random processes	17 September 2016
61	Methods of description of random process and its problems	19 September 2016
62	Stationary random process and its problems	20 September 2016
63	Non-stationary random process and its problems	21 September 2016
64	Tutorial (G2,G1,G3) - Average values of single random process and two or more random processes	21,22,23 September 2016
65	Problems	24 September 2016
66	Markov process, Examples	26 September 2016
67	Markov Examples	27 September 2016
68	Tutorial (G2,G1,G3 ) – Markov chain and its problems	28,29,30 September 2016
69	Markov chain and its problems	1 October 2016
70	Examples of Markov chains	3 October 2016
71	Examples of Markov chains	4 October 2016

72	Classification of states	27 October 2016
73	Classification of states Stochastic matrix and problems	29 October 2016
74	Stochastic matrix and problems	31 October 2016
75	Problems	1 November 2016
76	Revision	2 November 2016
77	Tutorial (G2,G1)- Discussion of Previous Year Papers	3 November 2016

**Text books:**

1. "Higher Engineering Mathematics", by Dr BS Grewal, Khanna Publishers, 2005
2. "Mathematics for Engineers" by K.B Datta, MAS Srinivas, Cengage Publications, 2007.
3. "Engineering Mathematics ", by B.V Ramana, TATA MC Graw Hill, 2007.
4. "Probability And Statistics", by TKV Iyengar and B.Krishna Gandhi Et, 2009.

Name and signature of the faculty: Mrs Bushra ---

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