

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Basic Sciences

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

Class: II B Tech

Branch-Section: IT-B

Semester: I

Subject: Probability and Statistics

Lectures per week: 4+1 (Tutorial)

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

	mean and problems	
34	Test of equality of means of two samples	28 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	Tutorial (G1,G2) - Examples of St.De.	2,5 August 2016
38	Tests of significance of difference between sample proportion and population proportion	8 August 2016
39	Difference between two sample proportions and its problems	9 August 2016
40	Tutorial (G3,G1,G2) - Small sample tests: Student t-distribution, its properties and problems	8,9,12 August 2016
41	Tests of significance of difference between sample mean and population mean and its problems	10 August 2016
42	Difference between means of two small samples and its problems	11 August 2016
43	Snedecor's F- distribution and its properties.	13 August 2016
44	Problems of t & F-distributions	16 August 2016
45	Tutorial (G1,G2) - Test of equality of two population variances, Chi-square distribution and its properties	16,19 August 2016
46	Problems of Chi-square distribution	17 August 2016
47	Chi-square test of goodness of fit and its problems	18 August 2016
UNIT-IV: Queuing Theory		
48	Structure of queuing system Operating characteristics of queuing system and its problems	20 August 2016
49	Transient and steady states, terminology of queuing systems	22 August 2016
50	Arrival and service processes and problems	23 August 2016
51	Tutorial(G3,G1,G2) - Pure Birth-Death process and its problems	22,23,26 August 2016
52	Deterministic queuing models-M/M/I, model of infinite queue	29 August 2016
53	Problem on M/M/I model of infinite queue	30 August 2016
54	Tutorial (G3,G1,G2) - Properties of M/M/I model, examples	29,30 August,2 September 2016
55	M/M/I model of finite queue	1 September 2016
56	Properties of M/M/I model of finite queue, examples	3 September 2016
57	Problems on M/M/I model of finite queue	6 September 2016
UNIT-V: Stochastic Processes		
58	Tutorial (G3,G1,G2) - Introduction to stochastic processes	6,7,9 September 2016
59	Stochastic processes	7 September 2016
60	Classification of random processes	8 September 2016
61	Methods of description of random process and its problems	10 September 2016
62	Stationary random process and its problems	13 September 2016
63	Non-stationary random process and its problems	14 September 2016
64	Tutorial (G1,G2) - Average values of single random process and two or more random processes	13,16 September 2016
65	Problems	17 September 2016
66	Markov process, Examples	19 September 2016
67	Markov Examples	20 September 2016
68	Tutorial (G3,G1,G2) – Markov chain and its problems	19,20,23 September 2016
69	Markov chain and its problems	24 September 2016
70	Examples of Markov chains	26 September 2016
71	Examples of Markov chains	27 September 2016
72	Tutorial (G3,G1,G2) – Classification of states	26,27,29 September 2016
73	Classification of states Stochastic matrix	28 September 2016
74	Classification of states Stochastic matrix and problems	29 September 2016
75	Problems	1 October 2016
76	Stochastic matrix and problems	3 October 2016

77	Problems	4 October 2016
78	Tutorial (G3,G1,G2) – Problems on M/M/I model of finite queue	3,4,7 October 2016
79	Tutorial (G2) – Stochastic matrix and problems	28 October 2016
80	Markov process	29 October 2016
81	Revision	1 November 2016
82	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: Ms Bushra ---

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