



Maharaja Agrasen Institute of Technology

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Department of Electrical & Electronics Engineering Probability, Statistics and Linear Programming (BS-202)

ACADEMIC PLAN FOR SEMESTER-IV 2022-2023

LESSON PLAN

Paper Code: L;4; T:0; C:4

	UNIT-I	L	CO
1	Probability and Statistical models, Sample Spaces and Events, Counting Techniques	1	CO1
2	Conditional Probability, Intersections of Events and Multiplication	1	
3	Total Probability Rules, Independence, Bayes' Theorem	2	
4	Random Variables : Discrete and Continuous Random Variables	1	
5	Probability Distributions and Probability Mass / density Functions	1	
6	Mean and Variance of a Random Variable	1	
7	Uniform Distribution, Binomial Distribution, Geometric Distributions,	1	
8	Hypergeometric Distribution, Poisson Distribution.	1	
9	Normal Distribution, Normal Approximation to the Binomial, and Poisson Distributions	2	
10	Exponential Distribution, Erlang and Gamma Distributions	1	
11	Weibull Distribution, Log-normal Distribution, Beta Distribution.	1	
	UNIT-II		CO2
12	Joint Probability Distributions for Two Random Variable	1	
13	Conditional Probability Distributions and Independence	1	
14	Joint Probability Distributions for Two Random Variables	2	
15	Covariance and Correlation, Common Joint Distributions,	1	
16	Linear Functions of Random Variables, General Functions of Random Variables,	1	
17	Moment- Generating Functions, Concepts of Point Estimation	2	
18	Stem-and-Leaf Diagrams, Frequency Distributions and Histograms	1	
19	Time Sequence Plots, Scatter Diagrams, Probability Plots	1	
20	Sampling Distributions and the Central Limit Theorem	2	

UNIT III		
21	Hypotheses Testing for a Single Sample	1
22	Tests on the Mean of a Normal Distribution with Variance Known	2
23	Tests on the Variance and Standard Deviation of a Normal Distribution	1
24	Testing for Goodness of Fit, Nonparametric tests	1
25	Statistical Inference for Two Samples.	1
26	Linear Regression, Least Squares Estimators, Hypotheses testing for simple linear regression	1
27	Confidence Intervals, Logistic Regression, multiple linear regression including aspects of MLR	2
UNIT-IV		
28	Introduction to Linear Programming:	1
29	Formulation of problem and Graphical method	1
30	Canonical and Standard form of LPP	2
31	Simplex method and Duality concept	1
32	Dual simplex method	2
33	Solutions to Transportation problem.	1
34	Solutions to Assignment problem.	1
Total:		44

Course Objectives

C.202.1	To understand probability and probability distributions
C.202.2	To understand methods of summarization of data
C.202.3	To understand and use test for hypothesis.
C.202.4	To understand methods for solving linear programming problems