

Aditya Institute of Technology and Management (Autonomous), Tekkali
II Year B.Tech (Electronics and Communication Engineering) I- Sem.
II ECE-C 2016-17 SEM-I
PROBABILITY THEORY AND STOCHASTIC PROCESSES
LESSON PLAN

Periods	Date (Tentative)	Topic	Unit No	Teaching Methodology	Remarks	Corrective Action Upon Review
1	27/06/16	Overview of the subject and its Applications in engineering. Set definitions.	Unit -I	Black Board		
2	29/06/16	Probability introduced through sets and relative frequency, Axioms		Black Board		
3	30/06/16	Introduction to Joint and Conditional probability and independent events, Problems and solutions.		Black Board		
4	01/07/16	Sample space definition. Discrete, Continuous and combined samples spaces with examples.		Black Board		
5	04/07/16	Total probability theorem, Baye's theorem introduction.		Black Board		
6	07/07/16	Baye's theorem derivation and problems..		Black Board		
7	08/07/16	Problems and solutions		Black Board		
8	11/07/16	Problems and solutions		Black Board		
9	13/07/16	Problems and solutions		Black Board		
10	14/07/16	Definition of random variable, Classification and properties of random variables , Conditions for function to be random variable	Unit - II	Black Board		
11	15/07/16	Introduction to density and distribution function and its properties.		Black Board		
12	20/07/16	Distribution and density functions of Gaussian and uniform random variables.		Black Board		
13	21/07/16	Exponential, Rayleigh random variable density and distribution functions.		Black Board		

14	22/07/16	Operations on one random variable, moments about the origin and moments about the mean.		Black Board			
15	27/07/16	Chebychev's and Markov's inequality-explanation		Black Board			
16	28/07/16	Monotonic and non – monotonic transformations of continuous random variable.		Black Board			
17	29/07/16	Problems and solutions		Black Board			
18	01/08/16	Problems and solutions		Black Board			
19	03/08/16	Vector random variables, joint distribution function introduction, properties of joint distribution function.	Unit - III	Black Board			
20	04/08/16	Concept of Marginal distribution functions, conditional distribution function.		Black Board			
21	05/08/16	Concept of statistical independence, sum of two random variables, sum of several random variables.		Black Board			
22	08/08/16	Central limit theorem for equal and unequal distributions.		Black Board			
23	10/08/16	Expected value of a function of joint random variables, joint moments about the origin		Black Board			
24	11/08/16	Joint central moments, joint characteristic function explanation.		Black Board			
25	12/08/16	Problems and solutions		Black Board			
26	17/08/16	Problems and solutions		Black Board			
27	18/08/16	Problems and solutions		Black Board			
28	19/08/16	Joint Gaussian random variable introduction, Two random variables case, N random variable case,	Unit- IV	Black Board			
29	22/08/16	Properties, transformations of multiple random		Black Board			

		variables					
30	24/08/16	Concept of random process, stationarity and statistical independence.		Black Board			
31	25/08/16	First – order, second – order, wide – sense and strict – sense stationarity process.		Black Board			
32	26/08/16	Concept of Time average and Ergodicity and mean – Ergodic Processes		Black Board			
33	29/08/16	Autocorrelation and its properties, Covariance Functions.		Black Board			
34	31/08/16	Gaussian Random Processes		Black Board			
35		Poisson Random Process.		Black Board			
36	01/09/16	Problems and solutions		Black Board			
37	02/09/16	Problems and solutions		Black Board			
38	15/09/16	Concept of convolution- Random signal response of linear Systems	Unit-V	Black Board			
39	16/09/16	Concept of mean & mean squared value of a system response.		Black Board			
40	19/09/16	Auto correlation & Cross correlation functions of input & output.		Black Board			
41	21/09/16	Spectral characteristics of system response (power density),		Black Board			
42	22/09/16	Power density spectrum of response , Cross power density spectrum of input and output.		Black Board			
43	23/09/16	Concept of Band pass, band-limited and narrowband processes.		Black Board			
44	26/09/16	Problems and solutions		Black Board			
45	28/09/16	Problems and solutions		Black Board			
46	29/09/16	Concept of modeling of noise sources- Resistive (thermal) arbitrary noise sources,		Black Board			
47	03/10/16	Concept of effective noise temperature,		Black Board			

		average noise figure					
48	05/10/16	Concept of average noise figure of cascaded networks.		Black Board			
49	06/10/16	Problems and solutions		Black Board			
50	07/10/16	Problems and solutions		Black Board			
51	17/10/16	Advanced concepts		Black Board/PP T			
52	19/10/16	Advanced concepts		Black Board/PP T			

Signature of the faculty

Signature of HOD/ECE