Seat No.:	Enrolment No.
5 c at 110	Emoniem 101

GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 2714105

ME - SEMESTER-I(New course) • EXAMINATION - WINTER- 2015

Date: 31/12/2015

Sul	bject	Name: Probability and Random process	
	me:2	:30 pm to 5:00 pm ns: Total Marks: 7	70
	1. 2. 3.	Make suitable assumptions wherever necessary.	
Q.1	(a)	Describe in brief: Conditional probability and Independence with any example.	07
	(b)	Two integers M and N are chosen at random. What is the probability that they are relatively prime to each other?	07
Q.2	(a)	Describe properties of conditional probability	07
	(b)	Define Random variable and also describe properties of probabilities distribution function.	07
		OR	
	(b)	A fair coin is tossed twice and let the random variable x represent the number of heads. Find $Fx(x)$.	07
Q.3	(a)	Describe in details : Discrete type random variables	07
	(b)	Explain : Bayes theorem in detail.	07
		OR	
Q.3	(a)	A box contains 6 white and 4 black balls. Remove the two balls at random without replacement. What is the probability that the first one is black and second one is white?	07
	(b)	Describe in details : Continuous type random variables	07
Q.4	(a)	Describe in detail : Probability of joint event with any example	07
	(b)	Explain : Classes of random process	07
		OR	
Q.4	(a)	Describe: Joint and marginal densities function of random variables.	07
	(b)	Describe in detail : Gaussian Process	07

Q.5	(a)	Describe the properties of probability	07
	(b)	Describe the mean square derivative and integral of stochastic processes in brief.	07
		OR	
Q.5	(a)	Explain the meaning of stochastic process along with its properties.	07
	(b)	Describe in detail : Marcov process	07
