Programme	Branch	Regulation	Subject Code	Subject Name	Year/Semester
B.E	Electronic and Communication / BioMedical	2017	MA 8451	Probability and Random Process	II / IV

S.NO	Choose the best answer	OP1	OP2	OP3	OP4	Answer
1	If E denotes the expectation the variance of a random variable X is denoted as?	$(E(X))^2$	$E(X^2)-(E(X))^2$	$E(X^2)$	2E(X)	B
2	The random variables X and Y have variances 0.2 and 0.5 respectively. Let Z= 5X-2Y. The variance of Z is?	3	7	8	5	B
3	A random variable is a---------- function	Single valued	Multi valued	maximum	minimum	A
4	A variable that can assume any value between two given points is called _____	Continuous random	Discrete random v	Irregular random va	Uncertain random v	A
5	If two events are independent, then	they must be mutually exclusive	the sum of their probabilities must be equal to one	their intersection must be zero	their union must be zero	B
6	Two events, A and B, are mutually exclusive and each have a nonzero probability. If event A is known to occur, the probability of the occurrence of event B is	one	zero	any positive value	any value between 0 to 1	B
7	If A contained in B and B contained in A, then	P(A) > P(B)	P(A) < P(B)	P(A) = P(B)	P(A) < P(B)	C
8	A table with all possible value of a random variable and its corresponding probabilities is called	Probability Mass F	Probability Densit	Cumulative distribu	Probability Distribu	D
9	Every ergodic process is---------- process	Poisson	stationary	Binomial	WSS	B
10	All possible outcomes for a random experiment are called?	sample space	event space	numerical space	Trail	A
11	The ACF of a process R(rr) at rr = 0 gives---------- of the signal.	Mean deviation	root square value	Mean square value	square value	C
12	A discrete random variable denoted as F(x) such that F(x) = P(X < x) is called	Random variable	Probability Mass Function	Cumulative distribution function	Probability Distribution Function	C
13	The other name of the moments about origins is	Random experimer	Random numbers	Central moments	Raw moments	D
14	When we throw a dice then what is the probability of getting the number greater than 5?	(1/3)	(1/4)	(1/5)	(1/6)	D
15	Poisson process is a ----------random process	unequal	Continuous	Independent	Discrete	D
16	A bag contains 4 red, 5 white and 6 black balls. What is the probability of getting red and black.	(4/15)	(6/15)	(8/75)	(2/75)	C
17	All possible outcomes for a random experiment are called?	event space	sample space	numerical space	Trail	B
18	Cross correlation and cross PSD form a	Fourier transform pair	Fourier series	Laplace transforn	z-transform	A
19	The ACF is a measure of inter-dependance of two	random variable	random process	SSS	WSS	B
20	A bag contains 6 red, 4 white and 5 black balls. What is the probability that a ball drawn is not red?	(2/5)	(3/5)	(4/15)	(6/16)	B
21	In white noise, the PSD contains all frequencies in ----- amount	minimum	maximum	equal	unequal	C
22	What is that a leap year selected at random will have 53 Sundays?	(2/7)	(3/5)	(4/15)	(6/16)	A
23	A --------is a functional relationship between the input and the output	invariant system.	input	memoryless system	system	D
24	When bxy is positive, then byx will be:	Negative	Positive	Zero	One	B

25	The correlation coefficient is the_____of two regression coefficients:	Geometric mean	Arithmetic mean	Harmonic mean	Median	A
26	If the input for an LTI system is Gaussian process, then the output is	Gaussian	Newton	Laplacian	Poisson	A
27	Exponential distribution is a special case of	binomial distribution	Gamma distribution	Poisson distribution	normal distribution	B
28	Correlation coefficient lies between	0 and 1	(-1) and 1	0 and +1	0 and 2	B
29	When we throw a coin then what is the probability of getting tail?	(1/2)	(1/3)	(1/4)	0	A
30	Every SSS is a	stationary	WSS	Poisson	normal	B
31	In a Poisson Distribution, if ‘n’ is the number of trials and ‘p’ is the probability of success, then the mean value is given by?	m = np	m = (np)2	m = np(1-p)	m = p	A
32	In Regression,when bxy is positive, then byx will be:	Negative	Positive	Zero	One	B
33	Two random variables are said to be orthogonal if their correlation is	Discrete	Continuous	1	0	D
34	Find the Arithmetic mean of 8,5,7,10,15 and 21?	7	10	20	11	D
35	A linear time invariant system is said to be stable if ite response to any bounded input is bounded.	stable system	invariant system.	memoryless system	system	A
36	Given E(X) = 5 and E(Y) = -2, then E(X - Y) is:	3	5	7	-2	C
37	The slope of the regression line of Y on X is also called the	Correlation coefficient of X on Y	Correlation coefficient of Y on X	Regression coefficient of X on Y	Regression coefficient of Y on X	D
38	In simple regression equation, the numbers of variables involved are	0	1	2	3	C
39	The ACF is an ---- function.	multiplies of three	even	odd	null	B
40	When we throw two dice then what is the probability of getting a sum 9?	(1/3)	(1/6)	(1/9)	(1/36)	C
41	The random variables X and Y have variances 0.2 and 0.5 respectively. Let Z= 5X-2Y. The variance of Z is?	4	5	6	7	D
42	Calculate bxy if N=11, Σdxdy=1405, Σdx=2, Σdy=17, Σdy2=1673.	0.85	0.86	0.87	0.88	A
43	X is a discrete random variable having probability mass function X= -1,0,1 and P(X)= k,2k,3k.Find the value of k.	(1/3)	(1/2)	(1/6)	(1/7)	C
44	The correlation between two variables is known as_	Positive correlation	Simple correlation	correlation	Negative correlation	C
45	For Binomial Distribution,mean and variance	variance < mean	variance=mean	variance > mean	variance=mean=0	A
46	The auto correlation function of the output of a linear system is	invariant system.	binomial distribution	symmetric function	unequal function	C
47	The ACF is ------at the origin	Minimum	Maximum	Negative	Positive	B
48	If X(t) is a Markov process which posses Markov property which takes only discrete lues whether t is continuous or discrete is called	Random variable	Markov chain	Probability	Distribution Function	B
49	A true SSS process ranges from	(-1,1)	**(**-∞ **,**∞**)**	(0,1)	(-1,0)	B
50	A random process is called_____if all its finite dimensional distributions are invariant under translation of time parameter.	WSS	Random variable	Probability	SSS	D

The correlation coefficient is the____of two regression coefficients: