QP CODE: 19101225

19101225

Reg No : .....

Name : .....

BCA DEGREE (CBCS) EXAMINATION, DECEMBER 2018

First Semester

Bachelor of Computer Application

Complementary Course - ST1CMT31 - BASIC STATISTICS AND INTRODUCTORY PROBABILITY THEORY

2017 Admission (Reappearance)

8024288F

Maximum Marks: 80 **Time: 3 Hours**

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. What are ogives?
2. What is Box plot?
3. What is mean deviation?
4. What is a scatter diagram?
5. What is the sign of the regression coefficient if the correlation coefficient is negative?
6. When correlation coefficient is zero, what is the nature of the regression lines?
7. Explain the term sample point with example.
8. Write down the sample space for throwing an unbiased coin and a die.
9. If P(A)=1/13,P(B)=1/4 and P(Aand B)=1/52.Find P(A/B)
10. If f(x) =2x for 0
11. If U=ax+b find the expectation of U where a and b are constants.
12. Find the mean of X with pdf of f(x)=x/5 for 0

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. What is a Histogram? How will you construct it.
14. Find median,quartilesand 8th decile of the following:
    120,130,140,110,160,150,190,180,170,200

15. Compute Sd for the following data:

Marks	10	20	30	40	50	60
No.of students	4	7	15	8	7	2

16. Explain how will you fit an exponential curve?

17. Find the correlation coefficient between X and Y from the following:

X	3	1	4	7	8	9	2	6	5
Y	4	2	3	6	5	8	1	7	9

18. State modern definition of probability.What are the properties of probability?

19. State addition theorem for two events and deduce the result for three events

20. An unbiased die is thrown.Obtain the probability distribution for it.

21. A random variable X has the pdf $f(x)= c/(1+x^2)$. Find the value of c

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Find mean,median for the following data and obtain mode graphically:

Marks	10-19	20-29	30-39	40-49	50-59	60-69
f	20	45	26	13	11	15

23. Fit a straight line using the method of least squarers to the following data:

X	1	2	3	4	5	6	7	8	9	10
Y	52.5	58.7	65.0	70.2	75.4	81.1	87.2	95.5	102.2	108.4

24. Given A,B,C are independent events. P(A)=0.3,P(B)=0.2 and P(C)=0.4.Find the probability for (a) all occuring (b)none occuring (c)Atleast one occuring (d)Exactly one occuring

25. Briefly explain mean ,variance and mgf of a random variable.Also state their properties.

(2×15=30)