DESCRIPTIVE STATISTICS

Time : Three Hours   Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks   (10x2 = 20)

1   What is meant by Primary Data?
2   What do you mean by Sampling?
3   Define Quartile deviation.
4   Write any two merits of Mean deviation.
5   What are the properties of regression coefficients.
6   Define Spearman's rank correlation.
7   A Bag contains 3 red and 4 white balls. Two draws are made without replacement. What is the probability that both the balls are red?
8   Define Baye's theorem.
9   Define Probability mass function.
10   Define r^{th} moment about Mean.

SECTION - B (25 Marks!)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a   Write a note on census method of data collection.

OR

b Briefly explain the basic Laws of Sampling.

12 a State the properties of a good measure of Central Tendency.

OR

b Calculate Quartile deviation from the mean for the following data:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No of Students	6	5	8	15	7	6	3

13 a Explain the regression curve of the mean of X on Y and Y on X,

OR

b Obtain the rank correlation coefficient for the following data:

X:	68	64	75	50	64	80	75	40	55	64
V:	62	58	68		81	60	68	48	50	70

14 a l or any two events A and B prove that
     $T(/ln/j)= P(B) \sim P(A \cap B)$

OR

b A,B and C are three mutually exclusive and exhaustive events associated with a random experiment. Find P(A) when

$P(B) = \quad P(A)$ and $P(C) = \sim P(B)$

15 a Write the properties of distribution function of a random variable.

OR

b Let f(x,y)=8xy, 0<x<y<l, f(x,y)=0 elsewhere. Find

(i) E[y/x=x]

(ii) E[xy/x=x]

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 =■ 30)

16   Explain the functions and limitations of Statistics.

17   Calculate the mean and standard deviation of the following are distribution of 542 members.

Age(in years): 20-30	30-40	40-50	50-60~] 60-70	70-80 I 80-90
No of Members: j 3	61	132	153 140	51 N 2

18   Obtain the equations of two lines of regression for the following data. Also obtain the estimate of X for Y=70.

X ; 65	66 ! 67	67	68 j 69 70 72
67	68 65	68	72	72 j 69 1 71 ;

19   State and prove Boole's inequality for 'n* events.

20   Find the Mean, Variance and the Coefficients of B_I, B_2 of the distribution.

$dF=kx^2 e^{'x} dx=l$, o<x<x

Z-Z-Z   END