Reg. No. ☐☐☐☐☐☐☐☐☐☐

BSCSTO 283

**Choice Based Credit System IV Semester B.Sc. Degree
Examination, September 2022
(2020 – 2021 Batch Onwards)
STATISTICS (Open Elective)
Basic Statistics**

Time : 2 Hours   Max. Marks : 40

Instructions : *1) A single booklet containing **40** pages will be issued.*
*2) **No** additional sheets will be issued.*
3) Non programmable calculators only are used.

PART – A

1. Answer **any five** from the following.   **(5×2=10)**

   a) What are primary data and secondary data ?

   b) A dice is rolled twice, what is the probability of getting a sum equal to 9 ?

   c) Find the arithmetic mean of the following :

      163, 173, 168, 156, 162 and 165.

   d) The following are the marks scored by 8 students in an examination. Find the median mark.

      Percentage Marks : 46 83 13 04 15 28 30 34.

   e) For the following distribution of age of 10 Pre-University students, find the range and coefficient of range.

      Age (years) : 16, 18, 18, 16, 18, 20, 17, 19, 16, 24.

   f) The upper and the lower quartiles of a distribution are 76 and 47 respectively. Calculate the quartile deviation.

   g) In a bivariate data, on x and y, V(x) = 49, V(y) = 9 and Cov(x, y) = –17.5. Find the coefficient of correlation between x and y.

   h) Define positive correlation with an example.

   i) In a bivariate data, $\sum x = 12.3$, $\sum y = 213$, $\sum x^2 = 15.76$, $\sum y^2 = 3600$, $\sum xy = 183$ and n = 16. Find the coefficient of correlation.

P.T.O.

PART – B

Answer **any five** from the following. **(5×6=30)**

2. A box contains 500 IC chips of which 100 are manufactured by Company X and the rest by Company Y. It is estimated that 10% of the chips made by Company X and 5% made by Company Y are defective. If a randomly selected chip is found to be defective, find the probability that it came from Company X.

3. For the following distribution, find the mode.

Percentage Marks	No. of Students
10 – 19	8
20 – 29	19
30 – 39	29
40 – 49	36
50 – 59	25
60 – 69	13
70 – 79	4

4. A Deposit of Rs. 1,000/- grows at the rates 8%, 10% and 11% in three subsequent years. Find the average growth rate.

5. Calculate mean deviation from mean for the following data.

Size	105	110	115	120	125	130	135	140
Frequency	8	23	34	35	27	18	9	4

6. Explain Scatter diagram with neat diagram.

7. Calculate Standard deviation.

Age	Persons
0 – 10	18
10 – 20	16
20 – 30	15
30 – 40	12
40 – 50	10
50 – 60	7
60 – 70	3
70 – 80	1

8. Two doctors X and Y measured the systolic blood pressure of two groups of men and the results were :

	No. of Men	Mean Pressure	S.D
Doctor X	113	159 mm	22.4 mm
Doctor Y	121	149 mm	20 mm

Find the mean and standard deviation for the two groups together.

9. Calculate Karl Pearsons coefficient of correlation from the following data.

X	4	7	8	3	4
Y	5	8	6	3	5

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