C

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Roll No. _____

23/3104

B.C.A. (Third Semester) Examination, 2023

Fifth Paper

(Elements of Statistics)

Time : Three Hours] *[Maximum Marks : 75*

Note : Attempt any **five** questions. **All** questions carry equal marks.

1. (a) Describe population and sample with suitable example.

   (b) Explain classification and its basis.

   (c) Discuss frequency and cumulative frequency distributions.

2. Describe the requisites of a good measure of central tendency. Also calculate AM, HM, and G.M. for given series : 5 and 20

P.T.O.

3. Discuss various absolute measures of dispersion. Calculate mean deviation from mean for given series:

   8, 10, 12, 14, 16, 18, 20, 22, 24, 26

4. (a) The mean and standard deviation of two distributions of 200 and 250 items are 60, 6 and 50, 4 respectively. Find coefficient of variation of all the 450 items taken together.

   (b) Eight balls numbered 1 to 8 are placed in a bag and two are drawn at random. What is probability that they are numbered 3 and 4?

5. (a) Find out the probability that a man asked to form a two digit number out of 2, 4, 5, 7, 9, would form 79 when

   (i) repetitions are not allowed,

   (ii) repetitions are allowed

(b) From 30 tickets marked with 1 to 30, one is drawn at random, find the chance that:

(i) it is a multiple of 5 or of 7.

(ii) it is a multiple of 3 or of 7.

6. (a) Define control limits, specification limits and tolerance limits

(b) Describe and construct control charts for n-p chart and c-chart.

7. Write short notes on any **five** of the following: 5×3=15

(a) Differentiate between deterministic and non-deterministic experiments.

(b) Union and intersections of two events.

(c) Control chart for R

(d) Distinguish between attribute and variable

(e) Requisites of a good statistical table.

(f) Define probability and conditional probability

(g) Control chart for X.

(h) Define sample space and descrete sample space.