C (Printed Pages 7)

Roll No. _____

25/1189

B.C.A. (Third Semester)

Examination, 2025

Fifth Paper

(Elements of Statistics)

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

Note : Answer questions as directed.

Section-A

(Very Short Answer Type Questions)

Note : Attempt any the **05 (five)** questions. Each questions carries **02 (two)** marks. The answer of each question should not exceed 50 words. 5×2=10

1. (a) Discuss the Scope of Statistics.

P.T.O.

(b) For asymmetrical distribution, median and mean are 30.2 and 32.4 respectively. Determine mode.

(c) What is interquartile range?

(d) How many different words can be formed with the letters of the world 'MISSISSIPPI'?

(e) Write about difference between Variables Chart and Attributes Chart.

Section-B

(Short Answer Type Questions)

Note : Attempt any **05 (five)** questions out of total **08 (Eight)** questions. Each question carries. **05 (five)** marks and answer of each questions should not exceed 100 words. 5×5=25

2. (a) Discuss the Nature of Statistics (Science or Art).

(b) The mean marks of 60 students in section A is 40 and mean marks of 40 students in section B is 45. Find the combine mean of the 100 students in both sections.

(c) In what respect A.M. is Superrior to mode and median as measure of central tendency.

(d) Discuss about Quartile Deviation (Q.D.) with merits and demerits.

(e) Differentiate between variance and coefficient of variance.

(f) If $1 \leq r \leq n$, prove that :

$C(n,r)+C(n,r-1) = C(n+r,r)$

(g) Discuss the limitation probability and also explain deterministics experiment and Probabilistic experiment.

(h) If the average function defective of large sample of product is 0.1537, calculate the control limits given that sub-group size is 2000.

Section-C

(Long Answer Type Questions)

Note : Attempt any **02 (two)** questions out of total **04 (four)** questions. Each question carries **20 (twenty)** marks and answer of each question should not exceed 400 words. 2×20=40

3. Describe various method of Meadian with merit and demerit and also calculate meadian from the following table: 5+15=20

Measurements	Frequency
11-15	7
16-20	10
21-25	13
26-30	26
31-35	35
36-40	22
41-45	11
46-50	6

4. Discuss the range and coefficient of range and also Calculate Q. D. and its coefficient from the following distribution: 5+15=20

Weekly Income (Rs)	No. of workers
58	2
59	3
60	6
61	15
62	10
63	5
64	4
65	3
66	1

5. (a) The number of defects in 18 rolls of cloth 150 meters length is given by 3, 5, 8, 9, 4, 2, 5, 9, 6, 4, 8, 12, 7, 5, 10, 10, 7 and 5. Draw C-chart and give your comment. 10

(b) The following data relate to faculty - wise enrolment in college:

Faculty	Science	Arts	Commerce	Total
No. of Students	2050	1200	2490	5740

Represents the data by a pie-diagram. 10

6. (a) There are 5 men and 4 ladies to dine at a round table. In how many ways can they seat themselves so that no two ladies are together. 10

(b) A problem in statistics is given to the three students A,B and C Whose chance of solving it are 1/2, 2/3, 1/4 respectively. What is the probability that the problem is solved. 10