

BCA Sem.-3 Examination

CC 205

Statistical Methods (N)

December-2025

[Max.Marks : 70]

Time : 2.30 Hours]

- 1 A Calculate Mean from the following data: 7

Variable	5	10	15	20	25	30
f	20	43	75	67	72	45

- B The weighted mean for the following data: 7

Value of variable	60	75	63	59	55
Weight	2	1	5	5	3

OR

- A Calculate Median from the following data: 7

Variable	1	2	3	4	5	6	7
f	8	10	11	16	20	25	15

- B Find the geometric mean of the following frequency distribution. 7

Value of the variable	5	10	12	16
Frequency	2	3	5	4

- 2 A Calculate the standard deviation for the following distribution of data. 7

Value of the variable	10	20	30	40	50	60
Frequency	8	12	20	10	7	3

- B Calculate the inter-quartile range and their coefficients from the following data. 7

Marks Group	0-20	20-40	40-60	60-80	80-100
No. of students	4	10	15	20	11

OR

- A Find
- P_{60}
- and
- P_{70}
- from the following data: 7

77, 47, 28, 39, 70, 18, 59, 60, 90

- B Find the quartiles from the following data: 7

Class	0-10	10-20	20-30	30-40	40-50
Frequency	3	8	20	12	7

- 3 A A bag contains 3 yellow, 3 white and 4 red balls. Three balls are drawn at random. Find the probability that, 7

(i) All three balls are of same colour.

(ii) All three balls are of different colours.

- B Two cards are selected at random for the pack of 52 cards. What is the probability that, both cards are of same colors. 7

OR

- A Two unbiased dice are tossed simultaneously. What is the probability that the sum of the number on the two faces is 7 or 11? 7

- B A person is known to hit a target in 3 out of 4 shots, where an another person is known to hit a target in 2 out of 3 shots. Find the probability that the target is hit at all when they both try. 7

P.T.O.

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4 A Calculate the correlation coefficient from the given data: 7

X	50	50	55	60	65	65	65	60	60	50
Y	11	13	14	16	16	15	15	14	13	13

B Consider the following data. Obtain the two regression equations. 7

X	6	2	10	4	8
Y	9	11	5	8	7

OR

A Following are the rank obtained by 10 students in two subjects, Statistics and Mathematics. To what extent the knowledge of the students in the two subjects is related? 7

Mathematics	1	2	3	4	5	6	7	8	9	10
Statistics	2	4	1	5	3	9	7	10	6	8

B From the following data find the regression equations, and estimate the value of Y when X=100. 7

X	72	98	76	81	56	76	92	88	49
Y	124	131	117	132	96	120	136	97	85

5 Attempt any seven out of twelve. 14

- Mean of 2, 4, 6, 8, 10, 12 is _____.
(a) 42 (b) 7 (c) 6 (d) None of these
- What is Median in the series 1, 2, 3, 4, 5?
(a) 1 (b) 2 (c) 3 (d) None of these
- Mean of the first n positive integer is equal to _____.
(a) $n/2$ (b) $(n+1)/2$ (c) $(n-1)/2$ (d) None of these
- Mean of five positive integers may be zero. (True / False)
- The probability of some event may be zero. (True / False)
- The mean of data series having equal number of positive and negative numbers is always zero. (True / False)
- In some case it may happen that Mean = Median. (True / False)
- What is the probability of an event happening 50%?.
(a) 0 (b) 1 (c) $1/2$ (d) None of these
- Range of Correlation Coefficient is _____.
(a) (0, 1) (b) [0, 1] (c) [-1, 1] (d) (-1, 1)
- Three events A, B and C are mutually exclusive and exhaustive. Then, $P(A) + P(B) + P(C) = 0.96$. (True / False).
- The probability of getting two ball from the bag having two balls is 1. (True/False)
- If the variance of the data is 361, then what is the standard deviation of the data?
(a) 14 (b) 16 (c) 19 (d) None of these
- If there is no correlation between two variables X and Y, the value of the Correlation Coefficient is equal to _____.
(a) 0 (b) 1 (c) -1 (d) None of these