

RAN-2408000703040001**S.Y.B.B.A. (NEP) (Sem. - III) Examination November - 2025****MDC - Business Statistics (Paper - IV)****Time: 2 Hours]****[Total Marks: 50****સૂચના : / Instructions**

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book

Seat No.:

Student's Signature

Q. 1 Answer the following questions (Any 5 out of 7)**10**

- 1) What is Primary Data?
- 2) Define Mean with example.
- 3) Find Range and relative range from the following observations:
72, 68, 75, 80, 65, 70, 78
- 4) What is negative correlation?
- 5) What is Regression?
- 6) Explain Alternate hypothesis with example.
- 7) A company claims that the average weight of its product is 28 grams. A sample of 12 products shows a mean weight of 30 grams with a standard deviation of 3 grams. Using a 5% significance level, test whether the actual mean weight is different from the claimed mean.

Q. 2 (a) Find Mean and Median of the following frequency distribution.**07**

Observation	10	11	12	13	14	15	16	17	18
Frequency	2	5	10	28	36	21	17	12	9

- (b) Find standard deviation and coefficient of standard deviation from the following observations: 12, 15, 18, 20, 25

07**OR****Q. 2 (a) Find the mode of the following frequency distribution:****07**

Class	16-20	21-25	26-30	31-35	36-40	41-45	46-50
Frequency	5	17	25	32	12	6	2

- (b) Find mean deviation and coefficient of mean deviation of the following observations: 25, 30, 28, 32, 35, 40, 45

07**Q. 3 (a) Find correlation coefficient using Karl Pearson's coefficient method.****07**

Rank of x	3	5	4	8	9	7	1
Rank of y	4	6	3	9	10	7	2

- (b) Find the equations of regression lines from the following data.

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x	28	41	40	38	35	33	46	32	36	33
y	30	34	31	34	30	26	28	31	26	31

OR

- Q. 3** (a) Two salesmen A and B are working in a certain district. From a sample survey conducted by the Head office the following results were obtained. State whether there is any significant difference in the average sales between the two salesmen:

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	Salesmen	
	A	B
No. of sample	20	18
Average Sales	170	205
SD	20	25

- (b) Four machines A, B, C and D are used to produce a certain kind of cotton fabrics. Samples of size 4 with each unit as 100 square meters are selected from the outputs of the machines at random, and the number of flaws in each 100 square meters are counted, with the following result.

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Do you think that there is a significant difference in the performance of four machines? Perform one way ANOVA.

A	B	C	D
8	6	14	20
9	8	12	22
11	10	18	25
12	4	9	23

- Q. 4** **Attempt any three.**

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- 1) Write a short note: Types of Graphs and Charts
- 2) Write a short note: Measurement of Dispersion
- 3) Interpretations of Correlation coefficient
- 4) Eight students were given a MCQ test and after one month coaching, they were given another test of the similar nature. The 2, -2, 6, -8, 12, 5, -7, 2 values gives the increase in their marks in the second test over the first. Do the marks indicate that the students have gained from the coaching?
- 5) A company wants to test whether training has any effect on employee performance. A sample of 100 employees was taken, and the data are as follows: Among 50 trained employees, 35 showed good performances and 15 showed poor performance. Among 50 untrained employees, 20 showed good performance and 30 showed poor performances. Use chi-square test at 5% significance levels; test whether training and performance are independent.