



DCBB303

Reg. No.

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III Semester B.B.A. Degree Examination, April - 2023

BUSINESS ADMINISTRATION**Statistics for Business Decisions****Paper : 3.3****(NEP Scheme 2022-23)****Time : 2½ Hours****Maximum Marks : 60****Instructions to Candidates:**

All the answers should be written in English only.

Section - A

1. Answer any **five** of the sub questions. Each sub question carries two marks. (5×2=10)
- Find r when two regression co-efficients are -0.6 and -0.4.
 - Define mode.
 - State any four limitations of statistics.
 - Give the empirical formula for calculation of mode.
 - What is correlation?
 - What is tabulation?
 - Mention the techniques of data collection.

Section - BAnswer any **four** of the following questions. Each question carries **five** marks. (4×5=20)

2. The number of workers in a large factory in 2015 was 540. Out of which 30% were females and the rest males in 2018. The strength of the workers increased by 100 females and 200 males in 2020 the total number of workers increased by 25% on its value in 2018. The female workers were 340. Tabulate the above.
3. From the following figures calculate median.
Wages (Rs.) : 36, 32, 28, 22, 26, 20, 18, 38
4. Calculate standard deviation from the following.
- | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|
| Central size : | 15 | 25 | 35 | 45 | 55 | 65 | 75 | 85 |
| Frequency : | 18 | 22 | 30 | 50 | 45 | 30 | 20 | 15 |
5. You are given the following data
- | | | |
|-----------|----|----|
| Variables | X | Y |
| Mean | 47 | 96 |
| Variance | 64 | 81 |
- Correlation coefficient 0.36 between X and Y compute regression line X on Y and calculate X when Y = 88.



6. Compute correlation between density of population and death rate.

Density of population (1000) :	20	50	40	70	60	30
Death rate :	10	16	14	20	17	13

Section - C

Answer any **two** of the following questions. Each question carries **12** marks. ($2 \times 12 = 24$)

7. The following are the figures of profits (in lakh rupees) of a business.

Year :	2015	2016	2017	2018	2019	2020	2021	2022
Profit :	38	40	65	72	69	60	87	95

Fit a straight line trend by the method of least squares where $\sum X = 0$, tabulate the trend values and estimate the profits for the year 2026.

8. Compute Karl Pearson's correlation coefficient for the following data.

Supply in tons :	30	29	29	25	24	24	24	21	18	16
Price in Lakhs Rs. :	11	12	13	14	15	16	15	17	18	19

9. Calculate Karl Pearson's coefficients of skewness from the following data :

Life time in hrs. :	300-400	400-500	500-600	600-700	700-800	800-900	900-1000
No. of Bulbs :	25	56	60	75	48	30	15

Section - D

Answer any **one** of the following questions which carries **six** marks.

($1 \times 6 = 6$)

10. From the information given below, prepare a multiple Bar diagram

Commodity:	A	B	C	D	E
Prices in 2021 (Rs.)	100	70	80	90	110
Prices in 2022 (Rs.)	105	110	98	107	120

11. The following are the figures of profit (in lakh rupees) of a business along with their trend values. Fit a straight line trend graphically representing the actual and trend values.

Year :	2008	2010	2012	2014	2016	2018	2020	2022
Profit :	38	40	65	72	69	60	87	95
Trend :	40	47	55	62	69	77	84	91