DCBB303

Reg. No. | | | | | | | | |

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

I. Answer any **five** of the sub questions. Each sub question carries **two** marks. **(5×2=10)**

a. Find r when two regression co-efficients are -0.6 and -0.4.

b. Define mode.

c. State any four limitations of statistics.

d. Give the empirical formula for calculation of mode.

e. What is correlation?

f. What is tabulation?

g. Mention the techniques of data collection.

Section - B

Answer 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.

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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. **(2×12=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 Pearsons' 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. **(1×6=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