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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

- I. 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 - B

- Answer any four of the following questions. Each question carries five marks. (4×5=20)
- 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.
 - From the following figures calculate median.
Wages (Rs.) : 36, 32, 28, 22, 26, 20, 18, 38
 - 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
 - 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.

[P.T.O.]



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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 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.

(1×6=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