III Semester B.B.A. Examination, April/May 2023
(NEP Scheme)
BUSINESS ADMINISTRATION
Statistics for Business Decisions

Time : 2½ Hours

Max. Marks : 60

Instruction : *Answers should be written completely in **English** only.*

SECTION – A

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

1) a) Define statistics.

b) If $\sum X = 100$, $N = 5$ ..... Find mean $\bar{X}$.

c) Find 'r' if $bxy = 0.8$ and $byx = 0.6$.

d) What is rank correlation ?

e) If $r = 0.6$ and $N = 64$, find probable error.

f) What is time series ?

g) What is consumer price index ?

SECTION – B

II. Answer **any three** questions. **Each** question carries **4** marks. **(3×4=12)**

2) Find arithmetic mean.

Marks	35	40	45	50	55
Number of students	3	8	12	9	4

3) In a sample study about cricket viewers in two towns, the following information was received. Town A-female 30%, the total cricket viewers were 40% and male non-viewers were 25%. In Town B male 55%, male non-viewers were 30% and female cricket viewers were 15%. Present the data in a tabular form.

4) Calculate standard deviation from the following data :

X	120	130	140	150	160	170

P.T.O.

5) The following are the group index numbers and group weights of an average family's budget. Construct consumer price index.

Group	Index No.	Weights
Food	152	48
Fuel and Lighting	110	06
Clothing	130	08
House Rent	100	12
Miscellaneous	90	15

6) Calculate Spearman's rank correlation.

R_1	1	8	7	2	3	6
R_2	1	7	5	3	2	6

SECTION – C

III. Answer **any three** questions. **Each** question carries **10** marks. (3×10=30)

7) Construct Fisher's index number for the following data verify whether it satisfies time reversal test.

Commodities	Base Year		Current Year	
	Price	Quantity	Price	Quantity
M	5	10	6	13
N	4	7	5	11
O	10	4	13	05
P	9	4	10	4
Q	18	4	15	5

8) From the following :

a) Fit a straight line trend by the method of least squares.

b) Estimate the income for the year 2024.

Year	2014	2015	2016	2017	2018	2019	2020	2021
Sales	15	18	20	30	39	40	44	50

9) The following data relate to the age of husbands and wives. Obtain the two regression equations.

Age of husband	25	28	30	32	35	36	38	39	42	55
Age of wives	20	26	29	30	25	18	26	35	35	46

10) Calculate mode from the data given below :

Less than	10	20	30	40	50	60	70	80
Frequency	4	16	40	76	96	112	120	125

11) Find out Karl Pearson's coefficient of correlation from the following data of marks obtained by Ten students in a class test.

Marks in Economics	45	70	65	30	90	40	50	75	85	60
Marks in Accountancy	35	90	70	40	95	40	60	80	80	50

SECTION – D

IV. Answer **any one** question. Question carries **8** marks. (1×8=8)

12) a) Draw a histogram from the following data :

Wages (Rs.) :	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
No. of Workers :	8	20	25	18	7	5

OR

b) Draw less than and more than ogive curve from the following data :

C.I. :	0 – 25	25 – 50	50 – 100	100 – 150	150 – 200
Frequency :	10	30	50	40	20

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