SM – 523

II Semester B.B.A. Examination, May/June 2018
(CBCS) (2014-15 and Onwards) (F + R)
BUSINESS ADMINISTRATION
Paper – 2.4 : Quantitative Methods for Business – II

Time : 3 Hours Max. Marks : 70

***Instruction** : Answers must be written in **English** only.*

SECTION – A

1. Answer **any 5** sub-questions. **Each** sub-question carries **2** marks. **(5×2=10)**
   a) Define statistics.
   b) What do you mean by ogive curve ?
   c) Given mean $(\bar{X})$ = 21.76 and median (M) = 20.84. Find out mode (Z).
   d) State any 2 objectives of measures of Dispersion.
   e) Give the meaning of direct or positive correlation.
   f) State any 2 uses of Index numbers.
   g) What is primary data ?

SECTION – B

Answer **any 3** questions. **Each** question carries **6** marks. **(3×6=18)**

2. Briefly describe functions of statistics.
3. Briefly explain the uses of Index numbers.
4. The following is the marks obtained by 50 students in statistics. Find the average marks.

Marks $\bar{X}$	20	30	40	50	60	70	80	90
No. of Students (f)	2	5	8	12	13	6	2	2

P.T.O.

5. The mean and standard deviation of 2 brands of bulbs are given below

	Brand 'A'	Brand 'B'
Mean	1000 Hours	820 Hours
S.D.	100 Hours	65 Hours

Calculate the co-efficient of variation for the two brands and which brand is more consistent ?

6. Calculate Rank correlation from the following data :

X	59	53	98	81	95	75	61	55
Y	47	37	25	39	45	30	32	40

SECTION – C

Answer **any 3** questions from the following . **Each** question carries **14** marks. **(3×14=42)**

7. Calculate quartile deviation and its co-efficient from the following data :

Size	Frequency
0 – 10	8
10 – 20	15
20 – 30	23
30 – 40	32
40 – 50	28
50 – 60	61
60 – 70	13

8. Calculate Karl Pearson's Co-efficient of correlation between sales and advertising Expenditure

Sales (in lakhs)	5	7	11	14	17	19	23	27	30
Advertising Expenditure (in 000s)	9	11	14	14	17	24	21	25	27

Take 17 as assumed mean and comment on the correlation value.

9. The following are the results of capital employed and profit earned by a firm in 10 successive years are calculated :

	Mean	Standard deviation
Capital Employed (Rs. 000s)	55	28.7
Profit earned (Rs. 000s)	13	8.5
Co-efficient of correlation	0.96	

a) Obtain the two Regression equations.

b) Estimate the amount of Profit to be earned if capital employed is Rs. 50,000 /-

c) Estimate the amount of capital to be employed to earn profit of Rs. 20,000/-.

10. Calculate Fishers Ideal Index numbers and also show that it is satisfying both Time Riversal Test (TRT) and Factor Riversal test (FRT)

Commodity	Base year		Current Year	
	Price	Qnty.	Price	Qnty
Wheat	12	20	14	20
Rice	16	22	18	24
Gram	32	20	36	18
Pulses	29	8	29	12
Ghee	62	1	70	2
Sugar	14	5	16	4

11. Draw 'less than ogive' and 'more the ogive' curves from the following data and also locate the median value to verify the actual calculations.

Class Interval	Frequency
10 – 50	10
50 – 100	30
100 – 150	50
150 – 200	40
200 – 250	20