

Second Semester B.B.M. Degree Examination, April/May 2019

(CBCS Scheme)

Management

QUANTITATIVE TECHNIQUES – II

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates : Answers should be written completely in English only.

SECTION – A

Answer any **TEN** questions. Each question carries **2** marks.

(10 × 2 = 20)

1. (a) Mention any four functions of statistics.
- (b) Define Range.
- (c) Name the various measures of Absolute Dispersions.
- (d) What is a bar diagram?
- (e) Mention any two uses of consumer price index numbers.
- (f) What are the merits of Arithmetic mean?
- (g) Value of  $Q_3 = 48$  and  $Q_1 = 30$ . Calculate co-efficient of Quartile deviation.
- (h) Define Correlation.
- (i) Name the components of time series.
- (j) Find correlation co-efficient when  $\sigma_{xy} = 480$   $n = 50$   $\sigma_x = 4.5$   $\sigma_y = 3.5$ .
- (k) Calculate two regression co-efficients when  $r = -0.99$   $\sigma_x = 10$   $\sigma_y = 12$ .
- (l) What is Regression Analysis?

SECTION – B

Answer any **FIVE** questions. Each question carries **5** marks :

(5 × 5 = 25)

2. Represent the following in suitable diagram.

Items of Expenditure	Expenditure in Rs.
Food	500
Clothing	150
Housing	200
Fuel	500
Miscellaneous	100
	<hr/> 1000 <hr/>

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3. Calculate Spearman's Rank Correlation Co-efficient from the following :

Marks in Economics : 50 40 60 30 25 20 35 70  
Marks in Accounts : 40 30 45 22 48 60 50 65

4. Calculate Median Marks from the following table :

Marks :	0-20	20-40	40-60	60-80	80-100
No. of Students :	12	08	10	18	12

5. Calculate Geometric Mean & Harmonic Mean from the following :

27, 74, 475, 75, 5, 0.8, .005, 25

6. Compute Mode from the following distribution :

Size :	0-5	5-10	10-15	15-20	20-25	25-30	30-35
Frequency :	24	32	28	16	37	10	8

7. Find the most likely production corresponding to a rain fall 40" from the following data :

Particulars	Rainfall	Production
Arithmetic mean	30"	500 kg
Standard deviation	5"	100 kg
Correlation coefficient	0.8	

8. Construct cost of living index number from the following data using 'Family budget Method'.

Items	A	B	C	D	E
Quantity Consumed in Base Year	12	15	10	10	20
Prices in Base year	25	10	30	20	35
Prices in current year	30	20	40	25	40

### SECTION – C

Answer any **THREE** questions. Each question carries **15** marks : **(3 × 15 = 45)**

9. Calculate Karl Pearson's co-efficient of correlation between the following two variables. Comment on the results through probable error.

X:	6	8	12	15	18	20	24	28	31
Y:	10	12	15	15	18	25	22	26	28

10. Calculate Fishers Index Number from the following data and show that it satisfies FRT & TRT.

Commodities	A	B	C	D
Price in 2017	2	4	1	5
Price in 2018	5	8	2	10
Expenditure in 2017	40	16	10	25
Expenditure in 2018	75	40	24	60

11. The following data relates to the wages of workers in two factories 'A' and 'B' which factory wages are more consistent.

Wages (in Rs.)	0-5	5-10	10-15	15-20	20-25	25-30
No. of workers Factory A :	20	18	30	25	20	15
No. of workers Factory B :	15	20	35	30	18	17

12. From the following data calculate  $\bar{X}_1$  Median and Mode.

Marks :	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of Students :	12	15	18	25	10	08	07	05

13. Following data relates to Age of Husbands and Wives. You are required to calculate two Regression equations and also estimate the age of wife when husband is 40 years.

Age of Husbands :	21	24	26	30	32	35
Age of Wives :	18	20	21	26	30	34