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III Semester B.Com. (Tourism/LS/SP) Degree Examination, March/April - 2021

COMMERCE

Quantitative Analysis for Business Decisions - II

(CBCS Repeater Scheme)

Paper : 3.6

Time : 3 Hours

Maximum Marks : 70

*Instructions to Candidates:*

Answer should be written in English.

## SECTION - A

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

1. a) What is the meaning of correlation?
- b) Find two regression co-efficients when  $r=0.9$ ,  $\sigma_x = 3$  and  $\sigma_y = 6$ .
- c) Define time series.
- d) Distinguish between interpolation and extrapolation.
- e) What is 'parameter' and 'statistic'.
- f) What is a null event?
- g) If  $b_{xy}=0.65$ ,  $b_{yx}=1.4$ , find  $r$ .

## SECTION - B

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

2. An economist is interested in estimating the average monthly household expenditure on food items by the households of a town. Based on past data, it is estimated that the standard deviation of the population on the monthly expenditure on food item is Rs. 30. with allowable error set at Rs. 9, estimate the sample size required at a 95% confidence level (Note : Z value at 95% confidence level = 1.96).
3. From a standard pack of 52 playing cards a card is drawn at random. What is the probability of choosing
  - a. A Black card
  - b. A spade
  - c. A king or a queen?

[P.T.O.]









4. Interpolate the production for the year 2010

year	1995	2000	2005	2010	2015
Production (in '000 tonnes)	26	30	32	?	45

5. Calculate rank correlation coefficient from the following :

X	82	65	78	65	80
Y	16	11	14	12	15

6. Fit a straight line trend by the method of least squares from the following data

Year	2009	2010	2011	2012	2013
Sales (in '000 units)	100	102	105	109	112

**SECTION - C**

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

7. From the followig data :

- a) Calculate the two regression equations.
- b) Estimate the value of X when Y is 20, and
- c) Determine the value of coefficient of correlation through regression coefficients.

X :	12	14	15	19	20
Y :	7	8	9	11	15

8. Calculate the coefficient of correlation from the following data

Marks in statistics :	07	37	13	49	31	07	25	37	31	13
Marks in Accountancy :	31	61	31	67	73	25	19	13	43	07

9. From the following data find out the number of persons in the income group between 40 to 45.

Income (Rs. in '000)	0-10	10-20	20-30	30-40	40-50
No. of persons	20	25	70	95	115

10. The following are the annual profits (in '000 Rs.) in a certain business

Year :	2001	2002	2003	2004	2005	2006	2007
Profits (Rs. '000) :	60	72	75	65	80	85	95

- a. Fit a straight line trend to these figures by the method of least squares.
- b. Plot the actual and trend values on a graph.
- c. Estimate the profit for the year 2010.

11. From the marks obtained by 8 students in accountancy and statistics, compute coefficient of correlation by rank difference method

Marks in Accountancy :	60	15	20	28	12	40	80	20
Marks in statistics :	40	70	60	80	60	50	90	60