

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID: 29104/
29305Roll
No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Int. LL.B Examination 2015-2016**(First Semester)****(Special Carry Over Paper)****QUANTITATIVE TECHNIQUES****Time : 3 Hours]****[Maximum Marks : 60****Note :-** Attempt all questions.**SECTION - A**1. Attempt all parts of the following : $8 \times 1 = 8$ (a) Find the ratio between $\frac{3}{4}$ and $\frac{5}{6}$.

(b) A man saves 40% of his monthly income. If his monthly income is Rs. 4000, how much does he spends?

(c) Find the median of 25, 1275, 748, 162, 967, 162.

(d) Write the relation between mean, median and mode.

(e) Write the formula for Spearman's rank correlation coefficient.

[P. T. O.

BBAL 2104/BCL 2105 2

- (f) If the equation of a line is $7x - y - 5 = 0$ then find the regression line of x on y .
- (g) Write a symmetric matrix of order 3×3 .

(h) If $A = \begin{bmatrix} 1 & 3 \\ 2 & 2 \\ 3 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 4 \\ 2 & 1 \\ 1 & 0 \end{bmatrix}$

find $A - 2B$

SECTION - B

2. Attempt any two parts of the following : $2 \times 6 = 12$
- (a) The interest on a sum of money at 10% per annum for 6 years is equal to the interest on Rs.800 for 15 years at 12% per annum. Find the sum of money.
- (b) Find the quartile deviation of the following data:

Daily wages	10-15	15-20	20-25	25-30	30-35
No. of workers	8	14	20	12	6

3 BBAL 2104/BCL 2105

- (c) Define distinction between correlation and regression.
- (d) Solve the following system of linear equations.

$$x - 3y + z = -1$$

$$2x + y - 4z = -1$$

$$6x - 7y + 8z = 7$$

by using matrix method.

SECTION - C

Note :- Attempt all questions. Attempt any two parts from each questions. $5 \times 8 = 40$

3. (a) The ratio of annual incomes, expenditures and saving of Sonu and Monu are 5 : 3, 8 : 5 and 2 : 1 respectively. If the joint saving of both is Rs. 3600 in a year, find their annual income.
- (b) A sum of money was invested at C.I. added annually. At the end of the first year, the interest was Rs. 225 and at the end of second year, it was Rs. 238.50. Find the sum invested and the rate of interest.

[P. T. O.]

BBAL 2104/BCL 2105 4

(c) The cost of a train ticket from New Delhi to Dehradun has risen by 20% to Rs. 600. What was the original price of the ticket?

4. (a) Define :

(i) Mode

(ii) Standard deviation.

(b) Find the arithmetic mean for the following distribution :

Class	0-10	10-20	20-30	30-40	40-50
Frequency	7	8	20	10	5

(c) Find the standard deviation from the following data:

Height in Inches	58-60	60-62	62-64	64-66	66-68
No. of students	5	30	45	14	6

5. (a) Find the coefficient of correlation from the following data :

x	5	9	13	17	21
y	12	20	25	33	35

5 BBAL 2104/BCL 2105

- (b) Two lines of regression are given by $5y - 8x + 17 = 0$ and $2y - 5x + 14 = 0$. Find the mean values of x and y .
- (c) Explain the properties of correlation coefficient and regression.
6. (a) What do you mean by matrices? Explain the lower and upper triangular matrices.

(b) If $A = \begin{bmatrix} 3 & 2 \\ 4 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} a & b \\ 3 & 5 \end{bmatrix}$

be two matrices.

Find the values of a and b such that $AB = BA$.

- (c) Solve graphically the following L.P.P. Maximize $z = 40x + 50y$ subject to constraints.

$$3x + y \leq 9$$

$$x + 2y \leq 8$$

$$x, y \geq 0$$

10. 10. 10.

11. 11. 11.