

Sl. No. 77

BBAL 2104

No. of Printed Pages : 05

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

PAPER ID : 29104

Roll
No.

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Int. LLB Examination 2016-2017

(First Semester)

(Special Carry Over Paper)

QUANTITATIVE TECHNIQUES

Time : 3 Hours]

[Maximum Marks : 60

Note :- (i) Attempt all sections.

(ii) Section A carries 8 marks, section B carries 12 marks and section C carries 40 marks.

SECTION - A

1. Attempt all parts of the following : $8 \times 1 = 8$

(a) Find the ratio between $\frac{2}{3}$ and $\frac{5}{9}$.

(b) A man saves 20% of his monthly income. If his monthly income is Rs. 4,000, how much does he spends?

(c) Find the mean of the numbers 2, 5, 7, 4, 6.

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- (d) Find the range of the values 3, 5, 10, 24, 30, 8, 2.
- (e) Write the formula for regression line of y on x.
- (f) Write one demerit of Karl Pearson's coefficient of correlation.
- (g) Write a symmetric matrix of order 3×3 .
- (h) If $A = \begin{bmatrix} 2 & 4 \\ -3 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} -1 & 0 \\ 2 & 3 \end{bmatrix}$, find $A + 2B$.

SECTION - B

2. Attempt any two parts of the following : $2 \times 6 = 12$

- (a) Ram secures 25% marks in an examination but fails by 30 marks. While Shyam secures 50% marks get 20 marks more than the minimum passing marks. Find minimum passing percentage.
- (b) Find the standard deviation from the following data :

Size	0-10	10-20	20-30	30-40
Frequency	1	2	4	3

- (c) Write notes on Kurtosis.
- (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 question. $5 \times 8 = 40$

3. (a) Write notes on simple and compound interest.
- (b) In what time a sum of money will double itself at a rate of simple interest of 4% per annum?
- (c) The compound interest of a certain sum of money is Rs. 2,522 for 3 years at the rate of 5% per annum. Find the sum of money.
4. (a) Define :
- (i) Mode
- (ii) Mean

(b) Find the median for the following distribution :

Size	Frequency
10 - 15	8
15 - 20	12
20 - 25	12
25 - 30	18
30 - 35	14
35 - 40	10

(c) Write notes on skewness.

5. (a) Explain properties of correlation coefficient.
 (b) Find the regression equation of x on y from the following data :

x	0	1	2	3	4	5	6
y	2	1	3	2	4	3	5

(c) The ranks of 10 students in the beginning and at the end of course are as follows. Find out the coefficient of rank correlation :

Students	A	B	C	D	E	F	G	H	I	J
Before Course	1	6	3	9	5	2	7	10	8	4
After Course	6	8	3	7	2	1	5	9	4	10

6. (a) Define various types of matrices with examples.
 (b) If

$$A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$$

Show that $A^2 - 4A - 5I = 0$

- (c) Solve graphically the following
 LPP Maximize $Z = 10x + 20y$

Subject to constraints

$$2x + 3y \leq 180$$

$$x + 4y \leq 160$$

$$x \geq 0, y \geq 0$$
