6. Attempt any two parts of the following :   2×5=10

   (a) Define the following :

       (i)   Square matrix and diagonal matrix.

       (ii) Symmetric and scalar matrix.

   (b) Show that $A = \begin{bmatrix} 5 & 3 \\ -1 & -2 \end{bmatrix}$ satisfies the equation

        $x^2 - 3x - 7 = 0$.

   (c) Solve graphically the following LPP :

        Maximize Z = 3x + 9y

        Subject to constraints x + 3 y ≤ 60

                 $x + y \geq 10$

                 $x \leq y$

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

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No. of Printed Pages : 4

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

PAPER ID : 29104   Roll No.

Int LLB Examination 2017-2018

(First Semester)

QUANTITATIVE TECHNIQUES

Time : Three Hours]   *[Maximum Marks : 60*

Note :–   Attempt all questions.

SECTION - A

1. Attempt all parts of the following :   8×1=8

    (a) Find the ratio between a/b and c/d.

    (b) Write the formula for compound interest.

    (c) Find the median for the numbers 5, 3, 1, 7, 2, 9.

    (d) Find the mode of the numbers 2, 6, 5, 2, 1, 3, 7.

    (e) Write the condition for perfect negative corelation.

    (f) Write the formula for regression coefficient of y on x.

    (g) Write an identity matrix of order 3×3.

(h) If $A = \begin{bmatrix} 3 & -1 \\ 0 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 5 & 6 \\ -3 & 1 \end{bmatrix}$, find $2B-A$.

SECTION - B

2. Attempt any two parts of the following :   6×2=12

  (a) The compound interest of a certain sum of money is Rs. 2522 for 3 years at the rate of 5% per annum. Find the sum of money.

  (b) Find the mean from the following data :

x	0–10	10–20	20–30	30–40	40–50	50–60	60–70
y	4	6	10	20	10	6	4

  (c) Write notes on Kurtosis.

  (d) Write notes on Linear programming problems.

SECTION - C

Note :- Attempt all questions.

3. Attempt any two parts of the following :   2×5=10

  (a) Write notes on discount and commission.

  (b) Find the annual rate of interest if Rs. 1000 earned Rs. 55 as interest in 2 years and 9 months.

  (c) Write notes on concept of present value and amount of money.

4. Attempt any two parts of the following :   2×5=10

  (a) Find the mean deviation from the following data :

Class	0–6	6–12	12–18	18–24	24–30
Frequency	8	10	12	9	5

  (b) Write notes on limitations of statistics.

  (c) Write notes on Quartile deviation and standard deviation.

5. Attempt any two parts of the following :   2×5=10

  (a) Write merits and demerits of Karl Pearson's coefficients of correlation.

  (b) Write notes on Regression and their applications to business problems.

  (c) Find the regression equation of y on x from the following data :

x	1	2	3	4	5	6	7
y	9	8	10	12	11	13	14