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First Semester B.B.A. Degree Examination, December 2018

(CBCS Scheme)

Business Administration

Paper 1.5 – QUANTITATIVE METHODS FOR BUSINESS – I

Time : 3 Hours] *[Max. Marks : 70*

Instructions to Candidates : Answers should be written in English. Calculators are allowed.

SECTION – A

Answer any **FIVE** sub-questions. Each sub-question carries **2** marks : **(5 × 2 = 10)**

1. (a) Express 0.285 as a rational number.

   (b) What is a square matrix? Give example.

   (c) Find the simple interest on ₹ 5,000 for 5 years at 14% p.a.

   (d) Give the general form of a quadratic equation.

   (e) If $A = \begin{bmatrix} 2 \\ 3 \end{bmatrix}$ and $B = [2 \quad 3 \quad 4]$ find AB.

   (f) The first term of an AP is 5 and the common difference is 4. Find the 9th term.

   (g) Solve for x, $3x - 9 = 81$.

SECTION – B

Answer any **THREE** questions. Each question carries **6** marks : **(3 × 6 = 18)**

2. The circumference of three wheels are 20 cms, 40 cms and 70 cms. What is the least distance should they cover to make a complete number of revolutions simultaneously?

3. Solve for x : $\frac{2x+2}{3} + \frac{x-6}{2} = 42$.

4. Find the 12th term of an AP if $Q = 7$ and the sum of first 12 numbers are 612.

5. If $A = \begin{bmatrix} 5 & 3 \\ 1 & 0 \end{bmatrix}$ $B = \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$ and $C = \begin{bmatrix} 3 & 2 \\ 1 & 0 \end{bmatrix}$ find $4A - 2B - C$.

6. Find the simple interest and compound interest on ₹ 8,000 for 5 years at 9% p.a.

SECTION – C

Answer any **THREE** questions. Each question carries **14** marks : **(3 × 14 = 42)**

7. (a) Prof. Narayanaswmay deposited ₹ 10,000 in bank for a period of 4 years, for which bank provided 12% of simple interest. If the Bank had provided 12% of compound interest for the same deposit, how much more Prof. Narayanaswamy would have earned compare to simple interest.

   (b) The ratio of the students in Arts, Science and Commerce is 3 : 2 : 5. If the number of students in Arts stream is 126, find the number of students in Science and Commerce stream.

8. (a) If $A = \begin{bmatrix} 4 & 5 & 6 \\ 9 & 0 & 8 \\ 3 & 2 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$ find $5A + 2B$.

   (b) Solve by Cramer's rule :

   $2x + 3y = 42$

   $5x - y = 20$

9. (a) Find the LCM of 72, 108 and 2100.

   (b) Find the HCF of 108, 288 and 360.

10. (a) Solve Quadratic Equation $3x^2 - 8x + 2 = 0$ by using formula method.

    (b) What term of AP 7, 10, 13, ... is 184?

11. (a) If 20 men can do a job in 18 days, how long will 60 men take to do the same job?

    (b) A banker discounts a bill for certain amount having 35 days to run before it matures at 15% p.a. The discounted value of the bill is ₹ 985. What is the face value of the bill?