3433523

Reg. No.

II Semester B.Com./BCLS-2 Degree Examination, September - 2021
COMMERCE
Methods and Techniques for Business Data Analysis
(CBCS Scheme Regular and Repeaters 2019-20 Onwards)
Paper : 2.6

Time : 3 Hours   Maximum Marks : 70

Instructions to Candidates:

Answers should be completely in **English**.

SECTION - A

Answer any **FIVE** of the following questions. Each question carries **Two** Marks.(5×2=10)

1. a) Find the 10th term of AP 10, 12, 14...........

   b) What is a null matrix?

   c) Solve $3x^2 - 27 = 0$

   d) What are even numbers?

   e) Find x if 50:25=10:x

   f) If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ $B = \begin{bmatrix} -1 & -2 \\ -3 & 4 \end{bmatrix}$ find A-B.

   g) What is simple Interest?

SECTION - B

Answer any **THREE** of the following questions. Each question carries **Five** Marks.

(3×5=15)

2. Solve by elimination method

   $x + 2y = 4$

   $3x + y = 7$

[P.T.O.

3. Find the sum of the series 99+101+103 to 25 terms.

4. Show that $\begin{vmatrix} 3 & 4 & 7 \\ 2 & 1 & 3 \\ -5 & -1 & 2 \end{vmatrix} = -40$

5. Find Compound Interest on Rs.40,000 at 5% Interest p.a. for 3 years.

SECTION - C

Answer any **THREE** of the following questions. Each question carries 15 Marks.

(3×15=45)

6. a) If $A = \begin{bmatrix} 2 & 4 & 4 \\ 4 & 2 & 4 \\ 4 & 4 & 2 \end{bmatrix}$ prove that A²-8A-20I=0 **(8)**

b) The sum of three numbers in GP is -21 and their product is 125. Find the numbers.**(7)**

7. a) The annual income of two persons is in the ratio of 8:5 and their annual expenditure in the ratio of 5:3. If they save Rs.1,200 p.a. and Rs.1,000 p.a, find their incomes.**(8)**

b) Find the difference between Compound Interest and Simple interest an Rs.5,000 interested for 4 years at 8% p.a. **(7)**

8. a) Solve for x under formula method $9x^2 - 3x - 2 = 0$ **(8)**

b) The present age of three persons is in the ratio of 4:7:9. Eight years ago the sum of their ages were 56. Find their present ages. **(7)**

9. a) Solve by Cramer's rule **(7)**

$4x - 2y = 8$

$3x - y = 4$

b) Solve for x **(8)**

$$\frac{3x-1}{2} + \frac{x+2}{3} = \frac{9x+12}{5} - 2$$