



DCBC – 203

**II Semester B.Com. Examination, July/August 2024
(NEP Scheme) (Freshers and Repeaters)
COMMERCE**

Business Mathematics and Logical Reasoning

Time : 2½ Hours

Max. Marks : 60

Instruction : Answers should be written either in **Kannada** or in **English**.

SECTION – A

1. Answer **any five** of the following questions. **Each** question carries **2** marks.

(5×2=10)

- What do you mean by irrational numbers ?
- Solve for x, $5x - 5 = 15$.
- What is diagonal matrix ?
- Find the LCM of 16, 24 and 48.
- What is linear equation ?
- Find the 10th term of the AP 4, 8, 12.
- Let $A = \{4, 8, 9\}$, $B = \{8, 9, 11\}$ find $A \cup B$.

SECTION – B

Answer **any three** of the following questions. **Each** question carries **4** marks.

(3×4=12)

- Solve for 'x', $(x + 1)(6 - x) + (x - 8)(x + 12) = 0$.
- If $x = \begin{bmatrix} 18 & 2 \\ 8 & 6 \end{bmatrix}$ $y = \begin{bmatrix} 2 & 10 \\ 14 & 24 \end{bmatrix}$ find, xy.
- Find the sum of the AP 4, 8, 12, 16 148.
- What is TD and BD on sum of ₹ 3,300 due after 8 months at 10% P.A. ?
- Find the compound interest on ₹ 5,000 at 4% p.a. compounded annually for 5 years.

P.T.O.



SECTION – C

Answer **any three** questions. **Each** question carries **10** marks.

(3×10=30)

7. Solve by using Factorization and Formula method.

$$x^2 + 21x + 108 = 0.$$

8. If $A = \begin{bmatrix} 1 & 5 & 6 \\ 7 & 8 & 9 \\ 0 & 1 & 2 \end{bmatrix}$ $B = \begin{bmatrix} 4 & 2 & 3 \\ 0 & 1 & 2 \\ 3 & 4 & 5 \end{bmatrix}$

find, i) $A - B$

ii) $3A + 2B$

iii) $A + B = B + A.$

9. Find the difference between simple and compound interest on ₹ 20,000 for 4 years charging interest at 6% P.A.

10. Solve by Cramer's rule

$$5x - 3y = 24$$

$$-7x + 11y = 14.$$

11. If the 10th term of the AP is 15 and 15th term is 10, find 25th term.

SECTION – D

Answer **any one** of the following question. **Each** question carries **8** marks. (1×8=8)

12. a) Divide ₹ 1,600 between A, B, C, so that B may have ₹ 100 more than A and C ₹ 200 more than B.

OR

b) ₹ 2,000 is invested at an annual rate of 10%. What is the amount after 2 years if the compounding is done i) Annually, ii) Semi annually, iii) Quarterly ?