Q.P. Code: 18203

Second Semester B.Com. Degree Examination, March/April 2023
(2018-19 Scheme)
COMMERCE
(COB 430) Mathematics for Business

Time : 3 Hours Max. Marks : 80

SECTION - A

I. Answer any THREE questions. FIVE marks each. (3x5=15)

1. What is index? What down the laws of indices.
2. What is set? Name any 5 types of set with examples.
3. Find the compound interest on Rs. 800 for 3 years at 5% p.a.
4. If A:B - 2:3, B:C = 5:7, C:D = 9:13. Find A:D.
5. Insert 5 Arithmetic mean between 11 and 26.

SECTION - B

II. Answer any TWO questions. TEN marks each. (2x10=20)

6. a) Write a note on Quadratic equation.
   b) Distinguish between inverse and direct proportion.
7. a) Which term of AP 5,14,23,..... is equal to 239.
   b) Solve the following quadratic equation by using formula method:
   $2x2 - 3x = 2$.
8. a) Simplify $(\sqrt{2^4} \times 3\sqrt{64}) \div 4\sqrt{2^8}$
   b) If $A = \begin{vmatrix} 1 & 7 \\ 2 & 4 \end{vmatrix}$ and $B = \begin{vmatrix} 3 & 3 \\ 5 & 2 \end{vmatrix}$ Find AB
9. a) Find the number of permutation of all the letters of the word MATHEMATICS.
   b) Two numbers are in the ratio of 5:8. If the sum of the number is 195 find the number.

SECTION - C

III. Answer any THREE questions. FIFTEEN marks each. (3x15=45)

10. a) What is matrix? Explain the different types of Matrix.
    b) What is progression? Explain its types.

11. a) In a group of 75 students, 35 students like Badminton, 20 students like both Badminton and Tennis. How many of them like only tennis? Also show by Venn Diagram.

    b) The difference been BD and TD on bill give after 6 months at 4% interest p.a. is Rs. 20. Find TD, BD, P and face value of the bill(f)

12. a) Solve $9x^2 - 3x - 2 = 0$ by formula method.

    b) Solve by using Logarithm Table.

    $$\frac{368.4 \times 0.0684}{12.84 \times 0.0016849}$$

13. a) Solve the equation by Cramers ule $6x + 5y = 2$, $4x - 3y = 14$.

    b) Find the compound interest on 3550 in 3 years if the rate of interest is 5% for first year, 6% on second year and 7% for third year.

14. a) If U = {1, 2, 3, 4, 5, 6, 7, 8, 9} A = {2, 4, 6, 8}, B = {2, 3, 5, 7}

    Find (i) $(A \cup B)' = A' \cap B$ (ii) $(A \cap B)' = A' \cup B'$

    b) Mr. Shridharan D.S. is elder than Mr. Shishira D.S. by 3 years. After 5 years ratio of their age would be 7:6. Find their present age.

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