SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
B.Com.(PA) END SEMESTER EXAMINATIONS NOVEMBER-2022
SEMESTER - I
21UPAAT1001 - Business Mathematics

Total Duration : 2 Hrs 30 Mins. Total Marks : 60

Section A

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. If A = {1, 3, 5}, B = {2, 4, 6, 8} and C = {2, 5, 8, 0},
   Find (i) (A ∪ B) ∩ (A ∪ C); (ii) (A ∪ B ∪ C) and (iii) (A ∩ B ∩ C)
2. Find how many four letter words can be formed, out of the word $LOGARITHMS$.
3. Solve: $8x^2$-10x+3=0 by Quadratic Formula.
4. If A=$\begin{matrix} 2 & -1 & 5 \\ 3 & 2 & -4 \end{matrix}$ B=$\begin{matrix} 4 & 7 & 8 \\ -2 & 3 & 5 \end{matrix}$ Find 2A + 3B and 3A – 2B.
5. If a^x = b, b^y = c, c^z = a, Prove that xyz = 1.
6. Monthly Income of A and B are in the ratio 5:6 and their expenses in the ratio 4:5. If each save Rs.200 per month. Find their Incomes.
7. If Rs.450 amount to Rs.504 in 3 years at simple interest, what will Rs.650 amount in 2 years 6 months, the interest rate being the same in both case.
8. Find the differential Co-efficient of $x^{-7} + x^2 - x$

Section B

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. If A, B, C are any three sets, then using Venn diagram prove that
   (A ∩ B) ∩ C = A ∩ (B ∩ C)
10. Solve the following equations by Cramer's Rule.
    2x + 4y + z = 26; 3x + 2y + 3z = 32; 2x – 3y + 4z = 16

Contd...

11. Find the sum of the terms from 10^{th} to 25^{th} for the following Arithmetic Progression:
    24, 28, 32, 36. . . . . .
12. How many annual payments of Rs.50 each are needed to accumulated Rs.1,000, if the interest is 5% compounded annually?
13. Examine the function $y = x + x^{-1}$ for Maximum and Minimum.

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