SECTION – C

Answer **any three** questions. **Each** question carries **10** marks. **(3×10=30)**

7. Solve for x and y using
   a) Elimination method
   b) Substitution method

   $x + 2y = 4$

   $3x + y = 7$

8. Solve by using Cramers Rule $6x - 7y = 5$

   $9x - 5y = 13$.

9. If it is given that log 2 = 0.3010, log 3 = 0.4771. Find log 8, log 6, log 4 and log 24.

10. A bill for ₹ 42,000 was drawn on 1-4-2023 at 6 months date. It was discounted on 11-5-2023 at 12% p.a.

    Calculate :

    i) BD
    ii) Present worth
    iii) TD and
    iv) B.G. (Banker's Gain).

11. Find the difference between simple interest and compound interest on ₹ 15,000 for 5 years, charging interest at 6% p.a.

SECTION – D

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

12. The wholesaler offer a product at catalogue price of ₹ 1,00,000 with 20% cash discount and 5% trade discount to the retailer. Retailer sells it at 10% lesser than the catalogue price by offering 2% cash discount to the final customer.

    Find out :

    a) Profit made by the retailer
    b) Price to be paid by the customer.

    OR

13. Two persons A and B whose salaries together amount to ₹ 100. A spends ₹ 75% and B ₹ 70% of their salaries. If their savings are 5 : 4, find their respective salaries.

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II Semester B.B.A. Examination, August/September 2023
(NEP – Freshers and Repeaters)
BUSINESS ADMINISTRATION
Paper – 2.3 : Business Mathematics

Time : 2½ Hours | Max. Marks : 60

Instruction : *Answer should be written only in* ***English****.*

SECTION – A

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

1. a) What do you mean by quadratic equation ?
   b) Solve $6x - 16 = 14(x - 8)$.
   c) What is unit matrix ?
   d) Write any two logarithmic form.
   e) Give the meaning of cash discount.
   f) A man can do 15 pencils in 30 minutes. How long will it take him to do 96 pencils ?
   g) Find 25th term of the AP 2, 5, 8.

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SECTION – B

Answer **any three** questions. **Each** question carries **4** marks. **(3×4=12)**

2. Briefly explain basic laws of indices.
3. The age of the father is four times that of his son. 5 years ago the age of the father was 7 times that of his son. Find their present ages.
4. $A = \begin{bmatrix} 18 & 2 \\ 8 & 6 \end{bmatrix}$ and $B \begin{bmatrix} 2 & 10 \\ 14 & 24 \end{bmatrix}$ find a matrix 'X' such that $2A + 5B + 3X = 0$.
5. At what rate percent per annum will a sum of ₹ 1,000 become ₹ 1,600 if the loan given for 3 years attracts simple interest ?
6. Which term of the AP 7, 11, 15, ... is 63 ?

P.T.O.