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B.M.S COLLEGE FOR WOMEN AUTONOMOUS
BENGALURU – 560004
SEMESTER END EXAMINATION – SEPTEMBER 2023

B.Com – 2nd Semester

BUSINESS MATHEMATICS
(NEP Scheme 2021-22 onwards F+R)

Course Code: COM2DSC05
Duration: 2 ½ Hours

QP Code: 2022
Max. Marks: 60

SECTION-A

1. Answer any FIVE of the following questions. Each question carries TWO marks. (5X2=10)

- What are the set of real numbers?
- Find the HCF of 108, 288 and 360.
- What is a Null matrix? Give example.
- What do you mean by present value of a bill?
- Solve the equation, $x + (3+x) = 5$
- Find the 13th term of the A,P 7,10,13,
- How much interest will be earned on ₹2,000 at 6% simple interest for 2 years?

SECTION-B

Answer any FOUR of the following questions. Each question carries FIVE marks. (4X5=20)

2. Solve for X

$$\frac{7x+5}{5} - \frac{(x-11)}{14} = \frac{3(x-25)}{7} + 35$$

3. The first and the last elements of a G.P, are respectively 3 and 768 and the sum is 1533. Find the common ratio and the number of terms.

4. The banker's gain on a certain bill due 6 months hence is ₹20, the rate of interest being 20% per annum. Find the face value of the bill.

5. Solve using Cramer's rule

$$5x + 6y = 3$$

$$2x + 5y = 16$$

6. In what time will a sum of 500 become ₹ 975 at 6% per annum compound interest payable half yearly?

SECTION-C

Answer any TWO of the following questions. Each question carries TWELVE marks. (2X12=24)

7. a) The weekly wages of 30 persons consisting of men and women amounts to Rs 3,800. Each man receives Rs.140 and each woman Rs.100 as wages per week. Find the number of men and women.

b) Solve by elimination method,

$$x + y = 15$$

$$3x - y = 21$$

8.a) Find the inverse of X =

$$\begin{bmatrix} 1 & 2 & -3 \\ -3 & 4 & 5 \\ 1 & 2 & -1 \end{bmatrix}$$

b) Solve through formula method.

$$\frac{6x}{x+1} + \frac{6(x+1)}{x} = 13$$

9.a) Find the sum of all numbers between 200 and 400 which are divisible by 7.

b) A man sells 7 horses and 8 cows at ₹ 29,400 and 5 horses and 6 cows at ₹ 21,500. What is the selling price?

SECTION-D

Answer any ONE of the following questions, carries SIX marks.

(1X6=6)

10. Write the use of AP and GP in solving commercial application problems.

11. Show the application of matrices in solving business problems.
