

II SEMESTER BBA EXAMINATION JULY/AUGUST 2023

SCHEME: SEMESTER (NEP)

053

BBA

BUSINESS MATHEMATICS

Time: 2 ½ Hours

Max Marks: 60

Instructions: Answer all the parts.

PART - A

Answer any FIVE questions. Each question carries two marks

5x2=10

1. What is integer? Give one example. CO1 LL1
2. Find HCF of 48.72 & 108. CO1 LL1
3. What is square matrix? Give example. CO3 LL1
4. What is factorization? CO3 LL1
5. If m & n are the two roots of the equations, $2x+3x-7=0$. find the value of $m+n$ & mn . CO2 LL1
6. Find the simple interest on Rs 6,500 for two years at 10% p.a. CO4 LL1
7. Find 'a' if, $T_{19}=38$ & $d=2$. CO5 LL1

PART - B

Answer any TWO questions. Each question carries ten marks

2x10=20

8. a) If $A = \begin{bmatrix} 2 & 4 & 6 \\ 4 & 6 & 8 \\ 2 & 3 & 3 \end{bmatrix}$ & $B = \begin{bmatrix} 3 & 6 & 9 \\ 5 & 4 & 2 \\ 8 & 7 & 1 \end{bmatrix}$ CO3 LL2

Find (i) $A+B$ & $A-B$ ii) A' and B' iii) AB iv) $A'B$

9. a) Solve by formula method CO2 LL2

$$5x^2 - 19x + 12 = 0.$$

b) Solve the pair of Equation

$$3x + 2y = 09$$

$$x + 3y = 10$$

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10. a) A sum of 3 numbers in AP is 15 & product is 105. Find the numbers. CO5 LL2
b) If in an AP 20th term is 40 & 40th term is 20, find first term & common difference.
11. a) Solve by Cramer's rule. CO3 LL2
 $2x + y = 0$
 $3x + 2y = 17$
- b) Calculate A^{-1} if $A = \begin{bmatrix} 2 & 3 \\ 4 & 1 \end{bmatrix}$.

PART - C

Answer any TWO questions. Each question carries fifteen marks 2x15=30

12. a) There is a circular path around a sports field. Sanju takes 18 minutes to drive one round of the field while Anju takes 12 minutes for the same. Suppose they both start at the same point & at the same time, & go in the same direction. After how many minutes will they again meet at the starting point. CO1 LL2
b) A merchant has 105 litres of oil of one kind, 120 litres of another kind & 150 litres of third kind. He wants to sell the oil by filling the 3 kinds of oil in tins of equal capacity, what should be the greatest capacity of such a tin?
13. Mr. Pranav deposited Rs 75,000 in a bank for a period of 8 years. The banker allowed interest of 10% p.a. You are required to calculate the total interest if interest is compounded? CO4 LL2
a) Annually
b) Half yearly
c) Quarterly
- Also calculate Simple Interest
14. a) Salary of 2 persons is in the ratio of 10:16. If they get Rs,1000 more, the ratio will be 4:6. Find their earlier salaries. CO4 LL2
b) If 15 men build a wall of 40 feet long, 2½ feet thick & 21 feet height in 18 days of 10½ hours each. In how many days of 15 hours each, 45 men could build a wall of 400 feet long, 5 feet thick & 20 feet height.
15. a) Find the sum of all numbers between 200 & 400 which are divisible by 7. CO5 LL2
b) Find the three numbers in GP whose sum is 57 & product is 343.