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BACHELOR OF BUSINESS ADMINISTRATION (B.B.A.)
EXAMINATION : DECEMBER - 2023
SEMESTER - III
Sub. : Business Mathematics (BBA15- 314)

Date :18/12/2023

Total Marks : 60

Time: 2.00pm to 4.30pm

Instructions: 1) All questions are compulsory.
 2) Figures to the right indicate full marks.

Q. 1. Choose the most appropriate option. (05)

1. A matrix is a rectangular array of numbers arranged in _____ and columns.

a) rows	b) lines
c) calculations	d) graph
2. A set containing no element is called ____ set .

a) Null	b)empty
c) singular	d) scalar
3. $A+B = B+A$ is _____ law .

a) commutative	b) Associative
c) multiplicative	d) Additive
4. $2y + 3z$ is a _____.

a) uninominal	b) binomial
c) trinomial	d) multinomial
5. A man repaying a loan as first installment of R. 1000. If he increase the installment by Rs. 50 each month then 30th installment will be in sequence _____.

a) H.P.	b) A.P.
c) G.P.	d) T.P.

Q. 2. State True / False (05)

1. $1+3+5+7+ \dots$ Is Arithmetic series.

a) True	b) False
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2. $5x+2y=8$ and $9x-5y=23$ are the two linear equations.

a) True	b) False
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3. A set containing no element is called empty set.

a) True	b) False
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4. $A(B+C) = AB+AC$.

a) True	b) False
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5. $1,3,5, \dots$ is a A.P. with $d = 2$.

a) True	b) False
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Q. 3. Write Short notes on (Any Three) (15)

1. Solve $5x + 2y = 8, 9x - 5y = 23$
2. Find the number of terms in A.P. $101, 104, 107, \dots, 182$.

3. Find x and y if $x + y = \begin{bmatrix} 5 & 2 \\ 10 & 9 \end{bmatrix}$ and $x - y = \begin{bmatrix} 3 & 6 \\ 10 & -1 \end{bmatrix}$

4. Without using log table show that $\frac{\log \sqrt{27} + \log \sqrt{8} - \log \sqrt{125}}{\log 6 - \log 5}$
5. Find sum of first n odd Natural Numbers.

Q. 4. Answer in detail (Any Two)

(20)

1. Find the sum of all integers between 81 and 720 which are exactly divisible by 7
2. Let $y = (3x^2 + 1)(x^3 + 2x)$ find (dx/dy)
3. Find the value $3A - 2B + AB$ given $A = \begin{bmatrix} 1 & 2 \\ 4 & 3 \end{bmatrix}, B = \begin{bmatrix} 7 & 0 \\ 8 & 6 \end{bmatrix}$

Q. 5. Case study

(15)

$$\begin{pmatrix} 1 & 0 & -4 \\ -2 & 2 & 5 \\ 3 & -1 & 2 \end{pmatrix}$$

Estimate Inverse of the given matrix
