

Unit-IV

7. If $A = \begin{bmatrix} 1 & 4 & 7 \\ 2 & 5 & 8 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 1 & 3 \\ 1 & 3 & 2 \end{bmatrix}$ and

$C = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$, find $2A + 3B - 4C$

8. (a) Differentiate $(2x - 3)^2 (4x^2 - 3x)^3$ w.r.t. x

(b) Integrate $\frac{1}{\sqrt{x-1} - \sqrt{x+1}}$ w.r.t. x

Roll No.

11032

**B.B.A. (Re-appear) 1st Sem. (Old)
Examination - November, 2016**

Business Mathematics

Paper-bba-1002

Time : 3 hours

Max. Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt **five** questions in all, selecting at least **one** question from each unit. All questions carry equal marks.

Unit-I

1. Using suitable examples, explain and illustrate the following:

- (a) Equal and equivalent sets
- (b) Joint and disjoint sets
- (c) Union of two sets

2. If $u = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, $P = \{1, 3, 5, 7, 9\}$, $Q = \{1, 4, 5, 8\}$ and $R = \{2, 5, 6, 9\}$,
Find

- (a) $(P \cup B)'$
- (b) $(Q \cup R) - P$
- (c) $(P \cap Q \cap R)'$
- (d) $(u) \cap (P \cup Q \cup R)$

Unit-II

3. (a) Simplify $\left(\frac{m^x}{m^y}\right)^{x+y} \times \left(\frac{m^y}{m^z}\right)^{y+z} \times \left(\frac{m^z}{m^x}\right)^{z+x}$

(b) Prove that $\log(1 + 2 + 3) = \log 1 + \log 2 + \log 3$

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- 4. (a) Find the sum of all odd numbers between 20 and 40.
- (b) Arithmetic mean of two numbers is 34 and their geometric mean is 16. Find the numbers.

Unit-III

5. The letters of the word ZENITH are written in all possible orders. How many words are possible? If all these words are written as in the dictionary, what is the rank of the word ZENITH?

6. (a) Find the 9th term in the expansion of $(2x + 3y)^{12}$

(b) Find the term independent of x in the expansion of $\left(x^2 + \frac{1}{x^3}\right)^{12}$

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[Turn Over