

7. If the successive coefficients in the expansion of $(1+x)^n$ be 45, 120 and 210, find n , it being given that n is a positive integer.

Unit IV

8. Find the transpose of each of the following matrices :

$$\begin{bmatrix} 3 & 5 & 7 \\ 2 & -3 & 1 \\ 1 & 1 & 2 \end{bmatrix}$$

9. Solve by Cramer's rule :

$$X - Y + 3Z = 6$$

$$X + 3Y + 3Z = -4$$

$$5X + 3Y + 3Z = 10$$

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Roll No.

A-152

B.B.A. EXAMINATION, Dec. 2018

(First Semester)

(Old Scheme) (Re-appear Only)

(BBA)

BBA103

BUSINESS MATHEMATICS

Time : 3 Hours]

[Maximum Marks : 70

Before answering the question-paper candidates should ensure that they have been supplied to 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. Q. No. **1** is compulsory.

1. (a) $A = \{x : x \text{ is an integer and } -3 < x < 7\}$.
Give their roster form.
- (b) Write down all the subsets of $\{1, 2, 3\}$.
- (c) Given $\log 2 = 0.3010$, $\log 3 = 0.4771$;
find $\log 360$.
- (d) Evaluate $n!/(n-r)!$. When $n = 10$, $r = 4$.
- (e) Give some suitable examples of
Transpose of Matrix.
- (f) Explain the Indefinite Integral.
- (g) Define the limits of Function.

Unit I

2. To prove that :

$$(A \cap B) \cap C = A \cap (B \cap C)$$

3. A town has a total population of 50,000 out of which 28,000 read 'The Patriot' and 23,000 read "The Times of India", while 4,000 read both the papers. Indicate :
 - (i) How many read neither of the two papers ?

- (ii) How many read "The Patriot" only ?
- (iii) How many read "The Times of India" only ?

Unit II

4. An article costs Rs. 512 which new, but by usage, it loses one-fourth of its value yearly. If Rs. Y be the value after the article has been in use for x years, prove that $\log y = (9-2x) \log 2 + x \log 3$.
5. If the first term of an A.P. is 2 and sum of 1st term is equal to one-fourth of the sum of next 5 terms; find the sum of first 30 terms.

Unit III

6. How many different words containing all the letters of the word TRIANGLE can be formed ? In how many of them :
 - (a) Consonants are never together ?
 - (b) No two vowels are together ?
 - (c) R and L occupy the end places ?