

Time Allowed : 15 Minutes

Maximum Marks : 10

Signature of Deputy Supdt. \_\_\_\_\_

Note : Use this paper to write the answers to the objective questions. No mark will be awarded for cutting, over-writing or using a pencil. This paper must be tagged with the answer-book.

1. Some possible answers to each statement are given below. Tick (✓) mark the correct answer : 10

(i) The missing quantity in the statement  $x : 5 :: 12 : 30$  is :

( 2 , 12 , 3 , 1 )

(ii) Decimal form of 5.3 % is :

( 53 , 0.53 , 0.0053 , 0.053 )

(iii) The formula for finding rate is :

(  $\frac{I \times 100}{p \times r}$  ,  $\frac{I \times 100}{p \times t}$  ,  $\frac{p \times 100}{I \times t}$  ,  $\frac{t \times 100}{p \times I}$  )

(iv) Annuity classified into categories is : ( Four , Three , Two , Five )

(v) The point (-2, 6) lies in the quadrant : ( 1st , IInd , IIIrd , IVth )

(vi) If  $f(x) = f(-x)$  the function is : ( Odd , Even , Constant , Explicit )

(vii) Discriminant in a quadratic formula is :

(  $b^2 - 4ac$  ,  $b^2$  ,  $-4ac$  ,  $\frac{b^2 - 4ac}{2a}$  )

(viii) 5 times of a number is 150. What is number : ( 220 , 145 , 155 , 30 )

(ix) Decimal number system is based :

( 0 to 15 , 0 to 1 , 0 to 9 , 0 to 10 )

(x) Any matrix "A" is a symmetric matrix if :

(  $A = -A$  ,  $A = A^t$  ,  $A = -A^t$  ,  $A = A^{-1}$  )

Roll No \_\_\_\_\_ ( To be filled in by the candidate)

(Academic Sessions 2006 – 2008 & 2007 – 2009 )

BUSINESS MATHEMATICS 208-(INTER PART – I)  
( Essay Type ) GROUP – I

Time Allowed : 1.45 hours

Maximum Marks : 40

Note : All questions are to be attempted on the answer book.

**SECTION – I**

2. Write any TWELVE short answers of the following questions :

24

- (i) Define ratio .
- (ii) Express 3.2 as percentage.
- (iii) Define discount.
- (iv) Write formula to find simple interest.
- (v) Define annuity due.
- (vi) Define a function.
- (vii) Find x and y, intercept of  $3y + x = 12$
- (viii) If  $y = 10 - 7x$  , find the value of y for  $x = 1.1$
- (ix) Define quadratic equation.
- (x) Find two odd consecutive integers whose sum is 12.
- (xi) Define a diagonal matrix.
- (xii) Find the value of ' x ' if  $\begin{bmatrix} 2 & x \\ 5 & 10 \end{bmatrix}$  is a singular matrix.
- (xiii) Convert  $(101)_2$  to base 10.

( Turn Over )

(2)

2. (xiv) Convert 93 to binary system.  
(xv) Simplify  $(1001)_2 \times (101)_2$   
(xvi) If 9-times of a number is 180, find the number.  
(xvii) 24 is what percent of 192 .  
(xviii) Find A if  $2A + \begin{bmatrix} 1 & 2 \\ 4 & 6 \end{bmatrix} = 0$

### SECTION – II

Note : Attempt any TWO questions.

3. (a) If 20 men can prepare 10 office tables in a day, how many men are required to prepare 25 such office tables in a day? 4 ✓  
(b) A retailer bought a bag of rice for Rs.400 and sold it for Rs.480. Find the profit percent. 4
4. (a) Draw the graph of  $f(x) = 10 - 2x$  4  
(b) Solve by completing square method  
 $9x^2 - 24x = 65$  4
5. (a) Evaluate  $(1011)_2 \times (1001)_2$  4  
(b) Solve the following linear equation by matrix method 4  
 $3x + 2y = 7$   
 $5x - y = 3$