

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA (INTEGRATED) - SEMESTER- 01 • EXAMINATION – SUMMER 2017**

**Subject Code: 4110503****Date: 11/05/2017****Subject Name: Business Mathematics****Time: 02.30 PM TO 05.30 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define function. Explain various types of functions in detail. **07**  
 (b) What is Ratio? Explain various Ratios in detail. **07**

- Q.2** (a) Explain basic concepts of Simple interest and compound interest. **07**  
 (b) Mr. X deposits Rs. 5400 and got back an amount of Rs. 6000 after a year. **07**  
 Find the simple interest he got.

**OR**

- (b) Richard deposits Rs. 3000 in State Bank of India for 3 year which earns him **07**  
 an interest of 8%.  
 What is the amount he gets after 1 year, 2 years and 3 years?

- Q.3** (a) The perimeter of a triangle is 60 feet. If the sides are in the ratio 3:4:5, find the **07**  
 length of each side of the triangle.  
 (b) Solve the proportion  $25 : X = 5 : 2$  for X. **07**

**OR**

- Q.3** (a) Explain linear function in detail. **07**  
 (b) Explain the concept of EMI with proper examples. **07**

- Q.4** (a) A Lunch box is reduced 25% in price in a sale. The old price was Rs. 120. Find **07**  
 the new price.  
 (b) An item listed at \$80.00 is subject to a trade discount of 25%. **07**  
 Compute (i) the amount of discount; (ii) the net price.

**OR**

- Q.4** (a) Explain Trade discount and Cash Discount. **07**  
 (b) Explain types of matrices. **07**

- Q.5** (a) If P and Q are the matrices below, compute  $P \cdot Q$  and  $Q \cdot P$ . **07**

$$P = \begin{bmatrix} 1 & 2 \\ -2 & 3 \end{bmatrix}, \quad Q = \begin{bmatrix} 1 & -1 \\ 2 & 2 \end{bmatrix}$$

- (b) Solve the equations: (Find the value of X, Y and Z) **07**  
 $2x - y + z = 1$   
 $x + 2y - 2z = 3$   
 $3x - 2y - z = 4$

**OR**

- Q.5** (a) Compute the determinant of the matrix. **14**

$$\begin{bmatrix} 2 & 8 & 9 \\ -2 & -4 & -3 \\ 2 & 12 & 12 \end{bmatrix}$$

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