Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

MAM (AM) – SEMESTER-I, EXAMINATION-WINTER -2018

Subject code: 4110503 **Date: 27/12/2018**
Subject Name: Business Mathematics
Time: 10:30 AM To 01:30 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) Solve the pair of equation x + y = 1 and 2x - y = 5 by the method of elimination. **07**

Q:1 (b) Explain the concept of Ratio, Proportion and Percentage by giving examples. **07**

Q:2 (a) If A = $\begin{bmatrix}1 & 2\\3 & 4\end{bmatrix}$ and B = $\begin{bmatrix}5 & 6\\7 & 8\end{bmatrix}$, Find A+B **07**

Q:2 (b) Distinguish between Simple and Compound interest. Explain the concept by giving numerical example. **07**

OR

Q:2 (b) If A = $\begin{bmatrix}2 & 1\\3 & 5\end{bmatrix}$ and B = $\begin{bmatrix}-2 & 3\\4 & -1\end{bmatrix}$, Find A * B. **07**

Q:3 (a) Distinguish between Trade discount and Cash discount by giving examples. **07**

Q:3 (b) Distinguish between Commission and Brokerage. **07**

OR

Q:3 (a) A farmer purchased a cow through a broker whose selling price is Rs 10,000. If brokerage paid is 2 ½ %. Find the brokerage and cost of cow. **07**

Q:3 (b) An agency pays 15% commission to a paper distributor. The price of each news paper is Rs 3. If he sells 50 copies of news paper every day, find how much commission he receives in a month and also net amount received by the Agency. **07**

Q:4 (a) Write a detailed note on Types of functions. **07**

Q:4 (b) Explain the concept of EMI. **07**

OR

Q:4 (a) The cash Price of an article is Rs. 500. It can also be purchased by paying Rs. 150 as down payment followed by five equal monthly installments. If the rate of interest charged in installments scheme is 18%, find the value of each installments. **07**

Q:4 (b) The cash price of a music system is RS 1800. It can also be purchased by paying Rs. 200 as down payment followed by three equal monthly installments of Rs. 550 each. Find the rate of interest charged in installments scheme. **07**

Q:5 (a) A man buys an article for Rs. 27.60 and sells it for Rs. 28.60. Find his gain percent. **07**

Q:5 (b) If 3:5 = x : 15, then find the value of x. **07**

OR

Q:5 (a) Write a detailed note on Types of Matrices. **07**

Q:5 (b) For the function f (x) = $3x^3 - 9$, determine the value of the dependent variable f(x) when the independent variable x equals 2. **07**

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