

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER-1 (NEW) EXAMINATION – WINTER 2018

Subject Code: 3710216**Date: 03/01/2019****Subject Name: Machine Learning****Time: 02:30 PM To 05:00 PM****Total Marks: 70****Instructions:**

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

- Q.1** (a) What is Machine Learning? Explain four example of machine learning. **07**
 (b) What is classification? Explain phases of classification. **07**
- Q.2** (a) Differentiate Bagging and Boosting. **07**
 (b) Discuss Linear regression with example. **07**
- OR**
- (b) Explain the concept of Bayes theorem with example. **07**
- Q.3** (a) Write a short note on reinforcement learning. **07**
 (b) Summarize K-mean algorithm and group the points (1,0,1), (1,1,0), (0,0,1) and (1,1,1) using k-means algorithm **07**
- OR**
- Q.3** (a) Differentiate Supervised, Unsupervised, and reinforcement learning. **07**
 (b) Explain major step of multi-variant regression. **07**
- Q.4** (a) Differentiate between Active Learning & Passive Learning. **07**
 (b) Explain Deep Learning in detail. **07**
- OR**
- Q.4** (a) Explain Bayesian Network with example. **07**
 (b) Discuss recent trends in various learning techniques of machine learning with IOT based application **07**
- Q.5** (a) Define following terms with respect to K-Nearest neighbor learning: **07**
 a) Regression
 b) Re-Sidual
 c) Kernel Function
 (b) Describe the working behavior of support vector machine with suitable diagram. **07**
- OR**
- Q.5** (a) Describe how principal component analysis is carried out to reduce dimensionally of data sets. **07**
 (b) Write a program to implement K-Nearest Neighbor algorithm to classify the iris data sets. Print both correct and Wrong Predictions. **07**
