PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech., Summer 2017-18 Examination

Semester: 2   Date: 18-05-2018
Subject Code: 03201151   Time: 02:00PM to 04:30PM
Subject Name: Machine Learning   Total Marks: 60

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1	A) What is supervised and unsupervised learning? Explain with the examples	**(05)**
	B) Explain under fit, over fit, just fit models for Regression model.	**(05)**
	C) What do you mean by linearly separable data and non-linearly separable data?	**(05)**
Q.2	**Answer the following questions. (Attempt any three) (Each five mark)**	**(15)**
	A) Explain KNN algorithm.	
	B) Explain ridge regression and effect of learning parameter on Regularization.	
	C) Name and describe the main features of Genetic Algorithms (GA).	
	D) How to decide on the correct number of clusters in k-mean algorithm?	
Q.3	A) Explain logistic regression technique in brief	**(07)**
	B) What is the procedure of building Decision Tree using ID3 algorithm with Gain and Entropy. Illustrate with example.	**(08)**

OR

	B) Explain how back propagation algorithm works for multilayer feed forward network	**(08)**
Q.4	A) Explain perceptron and delta learning rule.	**(07)**

OR

	A) What are the advantages and applications of deep learning?	**(07)**
	B) Explain role of prior probability, likelihood, evidence, Bayes rule and posterior probability in Naïve Bayes classifiers with example.	**(08)**