JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATION- Feb 2019
B.Tech(CSE/IT) VIII Semester

COURSE CODE: 18B1WCI832

COURSE NAME: Machine Learning Algorithms

COURSE CREDITS: 3

MAX. MARKS: 15

MAX. TIME: 1 HR

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q.1. [5 Marks. Each part is one mark]

a) Explain Tom Michel's definition of a well posed machine learning problem.

b) With the help of examples, contrast supervised learning from unsupervised learning.

c) How do you solve the minimization problem using normal equation method?

d) What is regularisation in machine learning?

e) What problems may be faced by machine learning algorithms with data having multiple features?

Q.2. [5 marks] Explain the principle of the gradient descent algorithm for linear regression. Accompany your explanation with a diagram. Explain the use of all the terms and constants that you introduce and comment on the range of values that they can take.

Q.3. [5 marks] State the hypothesis of the Logistic regression. Define its cost function and prove its convexity. Also calculate the gradient for parameter update for working with gradient descent algorithm.