

M. TECH.
(SEM-II) THEORY EXAMINATION 2018-19
MACHINE LEARNING

Time: 3 Hours

Total Marks: 70

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

- a. Define Machine Learning?
- b. Explain regression model.
- c. What is ANN?
- d. Explain Well defined learning problems.
- e. Define Decision tree.
- f. Explain Bayes classifier.
- g. Explain Q Learning.

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

- a. Explain the role of genetic algorithm in knowledge based technique.
- b. Differentiate between Genetic algorithm & traditional algorithm with suitable example.
- c. Explain various ANN architecture in detail.
- d. Describe any algorithm to implement simulated annealing.
- e. Explain DBSCAN with its role in forming clusters.

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

- (a) Explain back propagation algorithm with suitable example.
- (b) Explain learning with any two learning techniques with its expression for weight-updating.

4. Attempt any *one* part of the following: 7 x 1 = 7

- (a) Write Short Note on followings (i) Sampling Theory (ii) Bayes Theorem
- (b) Explain any comparing learning technique with suitable example.

5. Attempt any *one* part of the following: 7 x 1 = 7

- (a) Explain the followings (i) Generalization (ii) Multilayer Network
- (b) Describe decision tree learning algorithm with example.

6. Attempt any *one* part of the following: 7 x 1 = 7

- (a) Define the process of designing a learning system. Explain various issues in Machine learning
- (b) Explain Candidate elimination algorithm in detail.

7. Attempt any *one* part of the following: 7 x 1 = 7

- (a) Explain FOIL in detail.
- (b) Explain the followings (i) Hypotheses (ii) Inductive Bias (iii) Perceptron.