

Code No: R1642053

R16

Set No. 1

IV B.Tech II Semester Regular/Supplementary Examinations, July - 2021

MACHINE LEARNING

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any FOUR questions from Part-B

PART-A (14 Marks)

1. a) What kind of problems can Machine Learning solve? [2]
- b) Differentiate between Supervised and Unsupervised learning. [2]
- c) Write about descriptive rule learning. [2]
- d) What is distance based clustering in machine learning? [3]
- e) What is meant by Ensemble learning? [2]
- f) Why XOR problem cannot be solved by a single layer Perceptron? [3]

PART-B (4x14 = 56 Marks)

2. a) "Machine Learning Can't Solve Every Problem". Is this statement correct? Give justification to your answer with proper explanation. [7]
- b) With an example, explain about classification and ranking. [7]
3. a) Explain about the types of Regression techniques in machine learning. [7]
- b) What exactly is concept learning? Explain in detail. [7]
4. a) Explain in detail about various categories of splitting the node in decision tree construction. [10]
- b) What are first order rules? Explain about first order rule learning. [4]
5. a) What is a Perceptron? What are the problems that can be solved with perceptrons? Explain. [7]
- b) Discuss the k-nearest neighbor learning classification and also discuss its remarks. [7]
6. a) How the presence of hidden or latent variables affect the learning of probabilistic models. [7]
- b) Explain the similarity and differences between bagging and boosting techniques. [7]
7. a) What is the main purpose of principal component analysis? Explain. [7]
- b) Explain the back propagation algorithm in training neural networks. [7]