

PRAGATI ENGINEERING COLLEGE: SURAMPALEM
(AUTONOMOUS)
IV B.Tech II Semester Supplementary Examinations, May- 2024

MACHINE LEARNING
(CSE)

Time: 3 hours

Max. Marks: 60

Question Paper Consists of **Part-A** and **Part-B**
 Answer **ALL** questions from **Part-A**,
 Answer any **FOUR** Questions from **Part-B**

| PART-A | | | | | |
|------------|----|---|-----|-----|-------|
| [6x2=12M] | | | | | |
| Q.No. | | Question | BTL | CO | Marks |
| 1. | a) | List out any two perspectives and issues in machine learning. | K1 | CO1 | [2M] |
| | b) | Outline the purpose of Shrinking coefficients in regression. | K2 | CO2 | [2M] |
| | c) | Identify problems for neural network learning. | K2 | CO3 | [2M] |
| | d) | Illustrate the importance of estimating hypothesis accuracy. | K2 | CO4 | [2M] |
| | e) | Write any four dimensionality reduction techniques. | K1 | CO5 | [2M] |
| | f) | What is the difference between linear regression and locally weighted regression? | K2 | CO6 | [2M] |
| PART-B | | | | | |
| [4x12=48M] | | | | | |
| 2. | a) | Write the steps for CANDIDATE_ELIMINATION algorithm using version spaces and explain with an example. | K1 | CO1 | [6M] |
| | b) | Illustrate the general-to-specific ordering of hypotheses by considering the hypotheses of your choice. | K2 | CO1 | [6M] |
| 3. | a) | Write the remarks on Locally Weighted Linear Regression. | K1 | CO2 | [6M] |
| | b) | Analyze the usage of sigmoid function in classification. | K3 | CO2 | [6M] |
| 4. | a) | What is a Perceptron? Explain the working of a perceptron with a neat diagram. | K2 | CO3 | [6M] |
| | b) | Explain the Back Propagation Algorithm with an example. | K3 | CO3 | [6M] |
| 5. | a) | Briefly explain about Estimation hypothesis accuracy. | K4 | CO4 | [6M] |
| | b) | Compare any four learning algorithms. | K2 | CO4 | [6M] |
| 6. | a) | Discuss about Principal Component analysis with an example. | K2 | CO5 | [6M] |
| | b) | How to achieve efficient optimization with SMO Algorithm? Discuss. | K1 | CO5 | [6M] |
| 7. | a) | Explain about Case-based reasoning with CADET example. | K3 | CO6 | [6M] |
| | b) | Illustrate with suitable example k-nearest neighbor classifier. | K2 | CO6 | [6M] |