IMPORTANT QUESTIONS (MCA II SEMESTER)

MACHINE LEARNING

UNIT I

1. Define machine learning? Briefly explain the types of learning?
2. What is meant by dependent component analysis?
3. What are the requirements of clustering analysis?
4. What are issues in decision induction tree?
5. List the basic design issues to machine learning.

UNIT II

1. Which disciplines have their influence on machine learning? Explain with examples.

2. Contrast the hypothesis space search in ID3 and candidate elimination algorithm.

3. What factors contribute to the popularity of genetic algorithm?

4. How to use entropy as evaluation function?

5. Discuss Under what conditions is successful learning possible?

UNIT III

1. Illustrate the impact of over fitting in a typical application of decision tree learning

2. Discuss how a multi-layer network learns using a gradient descent algorithm.

3. Distinguish between inductive bias and estimation bias. b) Explain the methods for comparing the accuracy of two hypotheses.

4. What is the essential difference between analytical and inductive learning methods?

5. How to compute expected value and variance of a random variable?

UNIT IV

1. Explain the features of Bayesian learning methods. b) Discuss the relationship between the maximum likelihood hypothesis and the least squared error hypothesis.

2. Prove Є-exhausting the version space theorem. b) With suitable example discuss a radial basis function network.

3. Describe the representation of hypotheses and genetic algorithms used in this.

4. What are the limitations of explanation based learning?

5. What is the role of radial basis function in separating nonlinear patterns?

UNIT V

1. How rules are post pruned? Explain with an example.

2. What is Q function? Write an algorithm for learning

3. Explain an algorithm for regressing a set of literals through a single horn clause

4. Describe the TANGENTPROP algorithm to train a neural network to fit both training values and training derivatives.

5. Write the steps involved in designing a machine learning problem? Explain with the checkers problem?

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