

UNITWISEQUESTIONBANK SHORT AND LONGANSWERTYPEQUESTIONS

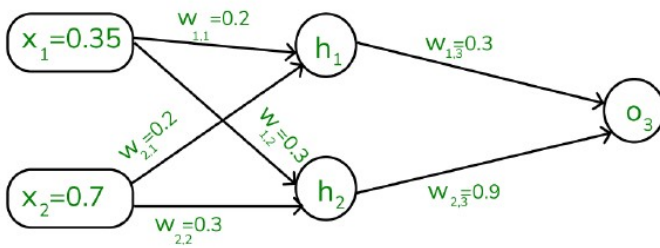
UNIT-I

S.No	Questions	BT	CO	PO
Part – A (Short Answer Questions)				
1	What are the applications of machine learning ?	L1	CO1	PO1
2	Define Machine Learning. And Types of Machine Learning?	L1	CO1	PO1
3	What is a consistent hypothesis?	L1	CO1	PO1
4	What is Linear Separability	L1	CO1	PO1
5	What is Linear Regression	L1	CO1	PO1
6	Write the types of Supervised learning algorithms	L1	CO1	PO1
7	State Hebb's rule	L1	CO1	PO1
8	Define Version Space	L1	CO1	PO1
9	What is Linear Discriminants?	L1	CO1	PO1
10	Define Perceptron	L1	CO1	PO1
11	What is Classification?	L1	CO1	PO1
12	What do you mean by Concept Learning?	L1	CO1	PO1
13	What is Concept learning task?	L1	CO1	PO1

S.No	Questions	BT	CO	PO
Part – B (Long Answer Questions)				
1	Discuss the perspective and issues in machine learning.	L1	CO1	PO1
2	Define Concept of Task and Concept Learning. With example explain how the Concept Learning task determines the Hypothesis for given target concept	L1	CO1	PO1
3	Distinguish between Supervised, Unsupervised and Semi-Supervised learning with examples	L1	CO1	PO1, PO2
4	Explain the Candidate Elimination algorithm with Example	L1	CO1	PO1
5	Evaluate the effectiveness of the candidate elimination algorithm in concept learning	L3	CO1	PO1, PO2
6	Explain the various stages involved in designing a learning system	L2	CO1	PO1
7	Explain McCulloch and Pitts mathematical model for neuron	L1	CO1	PO2
8	Explain Perspective and Issues in Machine Learning	L1	CO1	PO2
9	Explain the perceptron Learning Algorithm	L1	CO1	PO1

UNIT-II

S.No	Questions	BT	CO	PO
Part – A (Short Answer Questions)				
1	What is multilayer network	L1	CO2	PO1
2	What is interpolation?	L1	CO2	PO1
3	What is Learning Rate ?	L1	CO2	PO1
4	What is radial basis function?	L1	CO2	PO1
5	What is the Curse of Dimensionality	L1	CO2	PO1
6	What is spline?	L1	CO2	PO1
7	Write any two activation functions used in multi layer perceptron	L1	CO2	PO1
8	What is gradient descent?	L1	CO2	PO1
9	If the input to a single-input neuron is 2.0, its weight is 2.3 and its bias is – 3. Then find the net input to the transfer function?	L1	CO2	PO1
10	Interpret a Sigmoid Function and Threshold unit?	L1	CO2	PO1
11	What is Delta Rule?	L1	CO2	PO1

S.No	Questions	BT	CO	PO
Part – B (Long Answer Questions)				
1	Explain the Multi-layer perceptron with an example.	L2	CO2	PO1
2	Deriving the back-propagation algorithm	L3	CO2	PO1
3	Describe the construction of Radial Basis Function Network with an example	L1	CO2	PO1, PO2
4	Write the Multi-layer Perceptron algorithm	L3	CO2	PO2
5	Explain the Support Vector Machine.	L3	CO2	PO1, PO2
6	Illustrate the RBF Network in detail	L3	CO2	PO1
7	What are the advantages and disadvantages of Support Vector Machine	L1	CO2	PO2
8	Assume that the neurons have the sigmoid activation function to perform forward and backward pass on the network. And also assume that the actual output of y is 0.5. calculate the forward propagation and error	L3	CO2	PO2
				
9	Outline the steps to determine the linear decision boundary for separating two classes in a feature space using the Support Vector Machine	L3	CO2	PO2

UNIT-III

S.No	Questions	BT	CO	PO
Part – A (Short Answer Questions)				
1	What is Bagging?	L1	CO3	PO1
2	Write three main steps of the Genetic algorithm	L1	CO3	PO1
3	What is Boosting?	L1	CO3	PO1
4	What is the Genetic algorithm	L1	CO3	PO1
5	What is Decision Tree ?	L1	CO3	PO1
6	What is the objective function of k-means?	L1	CO3	PO1
7	What is k-means algorithm in unsupervised learning?	L1	CO3	PO1
8	What is the difference between classification and regression trees?	L1	CO3	PO1
9	What is the random forest algorithm?	L1	CO3	PO1
10	What is entropy in a decision tree?	L1	CO3	PO1
11	Write applications of the CART Algorithm	L1	CO3	PO1
12	What is the Gini Impurity	L1	CO3	PO1

S.No	Questions	BT	CO	PO
Part – B (Long Answer Questions)				
1	Explain about K-Nearest Neighbor algorithm	L2	CO3	PO1
2	Explain the Decision Tree algorithm. What are its advantages and disadvantages	L2	CO3	PO1
3	Explain in detail about the Genetic algorithm with an example	L2	CO3	PO2
4	Explain Gaussian mixture models	L3	CO3	PO2
5	Explain the Nearest Neighbour Methods	L3	CO3	PO1
6	Write ID3 algorithm	L3	CO3	PO1
7	Describe different ways to combine Classifiers	L2	CO3	PO2
8	Explain the types of Ensemble Learning	L3	CO3	PO2
9	Write AdaBoost algorithm	L3	CO3	PO2

UNIT-IV

S.No	Questions	BT	CO	PO
Part – A (Short Answer Questions)				
1	What is genetic offspring?	L1	CO4	PO1
2	Write any two differences of Principal Component Analysis. (PCA) and Linear Discriminate Analysis. (LDA)	L1	CO4	PO1
3	What are genetic Operators?	L1	CO4	PO1
4	What is data reduction in machine learning?	L1	CO4	PO1
5	What is a crossover in genetic algorithm?	L1	CO4	PO1
6	Define Linear Discriminate Analysis	L1	CO4	PO1
7	Define Isomap ?	L1	CO4	PO1
8	which algorithm is used in Map Colouring and Punctuated Equilibrium	L1	CO4	PO1
9	What is mutation in genetic algorithm	L1	CO4	PO1
10	What is Evolutionary learning ?	L1	CO4	PO1
11	Write any two applications of Linear Discriminant Analysis	L1	CO4	PO1
12	What are uses of Genetic algorithm ?	L1	CO4	PO1

S.No	Questions	BT	CO	PO
Part – B (Long Answer Questions)				
1	Explain Classification and Regression Trees (CART) algorithm	L2	CO4	PO1
2	Explain Linear Discriminate Analysis.	L2	CO4	PO1
3	Explain Principal Component Analysis	L2	CO4	PO2
4	Describe the basic concept of Genetic Algorithms	L3	CO4	PO2
5	Describe Independent Component Analysis	L3	CO4	PO1
6	Describe steps involved in conducting a factor analysis	L3	CO4	PO1
7	Explain locally linear embedding in detail.	L2	CO4	PO1
8	Explain ISOMAP and Least Squares Optimization	L3	CO4	PO1
9	Distinguish between Principal Component Analysis. (PCA) and Independent Component Analysis.(ICA) ?	L3	CO4	PO2