AI & ML Question Bank II

1)Define perceptron? Explain the concept of single perceptron with its learning algorithm?

2)Discuss the perceptron training rule and delta rule that solves the learning problem of perceptron?

3)Define Artificial neural networks. Explain biological learning systems.

4)Describe the characteristics of Back propagation algorithm

5)Explain gradient descent algorithm?

6)Describe derivation of the back propagation rule?

7)List and explain features of Bayesian learning methods?

8)Describe Brute -Force map learning algorithm?

9)Explain maximum likelihood and least -squared error hypothesis?

10)Draw the perceptron network with the notation. Derive an equation of gradient descent rule to minimize the error.

11)Discuss the application of Neural network which is used for learning to steer an autonomous vehicle?

12)Write an algorithm for back propagation algorithm which uses stochastic gradient descent method. Comment on the effect of adding momentum to the network.

13)Discuss the Naïve Bayes classifier?

14)What is Bayes theorem and maximum posterior hypothesis?

15)List the appropriate problems for neural network learning?

16)Describe the multilayer neural network. Explain why back propagation algorithm is required.

17)Describe the back propagation rule considering the output layer and training rule for output unit weights.

18)Explain maximum a posteriori (MAP) hypothesis using Bayes theorem?