1. Explain the term Gradient Descent in Machine Learning.
2. Explain the concept of perceptron.
3. Explain the term backpropagation.
4. Explain the activation functions used in neural network.
5. Explain the working of back propagation neural network with neat architecture and diagram.
6. What are the different types of neural network explain in brief.
7. Explain different layers in neural network.
8. Describe how PCA is carried out to reduce the dimensionality of dataset.
9. What are the applications of PCA.
10. Explain PCA in brief.
11. Explain Neural Network architecture.
12. Explain multilayer neural network.
13. What is dimensionality reduction.
14. Explain EM algorithm.
15. Explain MC-culloch pits model.
16. What are the advantages and disadvantages of EM algorithms.
17. Difference between single layer neural network and multi-layer feed forward neural network.
18. Explain features of big data.
19. State Hebbian Learning rule.
20. What are the applications of EM algorithm.
21. Comparison between biological neural network and Artificial neural network.
22. What are the characteristics of MC-Culloch Pitts ANN.
23. Why dimensionality reduction is important step in Machine Learning.
24. Apply Mc-Culloch Pitts model to implement OR function, AND function, NAND, NOR, XOR (use binary data)
25. Use perceptron to implement AND, OR, NAND, NOR, XOR logic function.
26. Calculate the output of the neuron Y for the network given below. Use binary and bipolar sigmoid function.

	Bias	X1	X2
Input	1	0.7	0.8
Weights	0.9	0.2	0.3

27. Calculate the output of the neuron Y for the network given below. Use binary and bipolar sigmoid function.

	Bias	X1	X2	X3
Input	1	0.8	0.6	0.4
Weights	0.35	0.1	0.3	-0.2

28. Apply weight updating rule to calculate new weight for AND function w1=1.2, w2= 0.6 and threshold =1, learning rate n=0.5
29. Use Adaline network to train NAND function with bipolar inputs and targets w1=0.2, w2= 0.2 and b=0.2, learning rate n=0.2
30. Explain LMS weight update rule.
31. Discuss the Perceptron training rule.
32. What are the type of problems in which Artificial Neural Network can be applied.