# CI3003: Artificial Neural Networks

## Question Bank

1. Illustrate back propagation process in deep neural network with chain rule.
2. Describe the basic models of artificial neural networks each with suitable diagram.
3. Explain the basic activation functions used in Neural Network.
4. What are biological Neurons? How they help in creating artificial neuron model. Compare and contrast biological neurons with Artificial Neural Network
5. Explain architecture of a simple artificial neuron net.
6. Mention the types of activation functions used in ANN. Explain any four activation functions.
7. With a neat flowchart, explain the training process of perceptron network with single output.
8. What are the basic types of neuron connection architectures? Explain any three architectures.
9. Justify, why single layer perceptron network could not solve even XOR problem
10. Define Learning factors. Explain the learning factors in Back propagation Algorithm
11. Differentiate between Back propagation and Radial basis function Network in detail
12. Discuss the various loss functions in neural networks.
13. Discuss the Bias - Variance trade off.
14. Discuss overfitting and underfitting with an example.
15. What is a generative adversarial network? Explain the architecture of a generative adversarial network with a diagram.
16. Why thresholding function is not used as activation function in Multilayer Feed Forward Networks
17. Explain input layer, hidden layer & output layer computations in Backpropagation Network.
18. What is a generative adversarial network? Explain the architecture of a generative adversarial network with a diagram.
19. Explain ART (Adaptive Resonance Theory). Describe the different features of ART.
20. Illustrate the different Components of CL network.
21. Explain the different types of Gradients and Descent.
22. Define Learning and Memory. Explain Learning algorithm in detail.
23. Discuss briefly Mc Culloch Pitt's artificial neuron model. Give its limitations.
24. Explain supervised, unsupervised and reinforcement Learning with example?
25. Explain associative learning and use of Boltzman machine in associative learning.
26. List advantage and disadvantage of SOM.
27. How do you choose the Scaling method used for Neural Networks?
28. Explain in brief feature selection? Discuss in details any feature selection method?