

## **M1**

How Incidence matrix is different from Adjacency matrix in Graph theory?

Critically analyze the various biological networks with real life examples.

Enlist the key characteristics of biochemical networks, neural networks, and ecological networks.

Discuss the concept of Random Walk, also illustrate the difference between one-dimensional and two one-dimensional random walk.

Enlist the various applications of Random Walk in Computer Science.

Discuss the key features of the TensorFlow, also describe the concept of data flow graph.

How TensorFlow can be utilised for Machine Learning applications?

Discuss the Shape Rank and Axis in the context of Tensor.

## **M2**

“Deep learning models are capable enough to focus on the accurate features themselves by requiring a little guidance from the programmer” Critically analyse this sentence.

Critically analyse various Deep Learning Network, and explain the working of Artificial Neural Networks.

Specify the need for Community detection and discuss the various techniques for the same.

Explain the Recurrent Neural Networks with the help of real life example, also describe how to train RNN?

Discuss about Backpropagation also analyse factors that are responsible for the training and performance of the Neural network.

Discuss the need and working of Convolutional Neural Networks with suitable diagram.

Explain the Training process of Recurrent Neural Network with proper steps.

Critically analyse the need of Community detection, also highlight the difference between Surprise Community detection and Louvain community detection algorithm.

