Time: 03 Hours **Marks: 80**

Note: 1. Question 1 is compulsory
2. Answer any three out of the remaining five questions.
3. Assume any suitable data wherever required and justify the same.

Q1. (a) State examples of Deep Learning. 5

(b) Explain optimizers. Why optimizers are required? 5

(c) What are different loss functions and their use case? 5

(d) What is the role of the encoder in an Autoencoder 5

Q2. (a) Explain Classes of Deep Learning. 10

(b) Explain working of gradient descent. 10

Q3 (a) Discuss types of activation functions. 10

(b) Explain Regularization in Autoencoders and types of Autoencoders. 10

Q4 (a) Draw and explain the architecture of Convolutional Neural Networks. 10

(b) Describe Pooling with suitable example. 10

Q5 (a) Discuss Recurrent Neural Networks in detail. 10

(b) Explain LSTM architecture. 10

Q6 Write short note on 20

(a) Application of Autoencoders
(b)AlexNET: Architecture .
(c)Explain the working of Gated Recurrent Unit
(d) Generative Adversarial Network