

Q.1

a) Explain common architectural principles of deep network.

[5 marks]

b) Define unsupervised learning. Explain difference between supervised and unsupervised learning.

[5 marks]

c) Discuss bias-variance tradeoff.

[5 marks]

a) What is deep learning? Explain its advantages and disadvantages.

[5 marks]

b) What is learning representations from data? Explain in detail.

[5 marks]

c) Explain any two popular industry tools used in deep learning.

[5 marks]

a) What is regularization? Explain difference between L1 and L2 regularization.

[6 marks]

b) Explain, with architecture of single-layer feed forward network. [9 marks]

a) Explain with architecture of multi-layer feed forward network.

[9 marks]

b) What is activation function? Explain any two activation functions.

[6 marks]

a) Give co-relation between artificial intelligence, machine learning, and deep learning. Compare deep learning with machine learning.

[5 marks]

b) Define deep learning. Explain pros and cons of using deep learning.

[5 marks]

c) Enlist and explain any four popular industrial tools used for deep learning.

[5 marks]

a) How deep learning works in three figures, explain with example? Also explain common architectural principles of deep network.

[5 marks]

b) Write a short note on L1 and L2 overfitting regularization.

[5 marks]

c) Explain various limitations of machine learning. [5 marks]

a) What is a perceptron? What are the steps involved for training a perceptron in deep learning?

[5 marks]

- b) Enlist activation functions used in deep neural network. Explain any two of them in detail.**
- c) Write short note on: Hyperparameters used in neural network.**

Q.4 a) Explain how a neural network can be trained with backpropagation and forward propagation methods.

b) Define loss functions used in deep neural network. Enlist and explain any two of them in detail.

c) Explain sentimental analysis in detail.
