

Department : Computer Science and Engineering.

Year & Semester : IV/VII

Sub Code & Sub Name : 20CSE471A & Deep Learning

Unit-I

S.No	Part-A Questions(2 marks)
1.	What is Deep Learning?
2.	What is machine learning
3.	What is mean by unsupervised machine learning algorithms?
4.	What is mean by supervised machine learning algorithms?
5.	Mention the types of machine learning algorithm?
6.	List out some supervised learning algorithms?
7.	Show the formula for Variance?
8.	Illustrate support vector machine?
9.	Define dimensionality?
10.	Define estimation?
11.	What is Loss Function?
12.	What is mean by hyperparameter?
13.	List out the types of loss function ?
14.	Define bias?
15.	What is cross validation?

S.No	Part-B Questions(10 Marks)
1.	List and explain the historical trends in Deep Learning?
2.	Briefly explain about Machine Learning basics algorithms?
3.	Give the Difference between deep learning and machine learning?
4.	Explain supervised learning algorithm?
5.	Explain unsupervised learning algorithm?
6.	Briefly explain about Testing methods?
7.	Define loss function and briefly explain about different loss function?
8.	Briefly explain about regularization?

Unit-II

S.No	Part-A Questions(2 Marks)
1.	What is mean by neural network?
2.	Define neuron networks in deep learning?
3.	Give example of a feed forward neural network?
4.	What is biological neuron?
5.	Give example of a feed forward neural network.
6.	Define Convergence theorem for Perceptron?
7.	Define perceptron?
8.	Define Sigmoid?
9.	Define Hyperbolic Tangent?
10.	What is multilayer perceptron?
11.	What is mean by Rectifier Function and give example?
12.	List out the Basic Components of Perceptron?
13.	List out the names of Activation functions?
14.	Define linear classification?
15.	What is non- linear classification?

S.No	Part-B Questions(10 Marks)
1.	Briefly explain about Biological Neuron?
2.	Briefly explain about the basic idea of computational units?
3.	Briefly explain about Perceptron Learning Algorithm?
4.	Briefly explain about Convergence theorem for Perceptron Learning Algorithm?
5.	Briefly explain about back propagation?
6.	Briefly explain about multilayer perceptron?
7.	Describe Deep feed forward networks?
8.	Briefly explain about linear separability?

Unit-III

S.No	Part-A Questions(2 Marks)
1.	What is mean by deep neural networks?
2.	Define ReLU?
3.	Define deep learning software libraries?
4.	What is mean by early stopping?
5.	Mention the application of deep learning?
6.	Give example for convolution.
7.	What is Tensor flow for deep learning?
8.	Define error function and what are the basic types of error?
9.	Define drop in and drop out?
10.	What is Auto encoder?
11.	Draw the architecture of simple DNN?
12.	Define error function?
13.	Define optimization?
14.	List the types of optimization methods?
15.	What is mean by early stopping?

S.No	Part-B Questions(10 Marks)
1.	Briefly explain about Simple DNN?
2.	Briefly explain about Deep Feed forward networks?
3.	Briefly explain about Gradient-Based Learning algorithm with example?
4.	Briefly explain about Regularization methods for Deep Learning?
5.	Briefly explain about Optimization methods for Neural Networks?
6.	Briefly explain about Error Functions?
7.	Briefly explain about Platform for Deep Learning - Deep Learning Software Libraries?
8.	Briefly explain about Various Activation Functions, ReLU, Sigmoid?
9.	Briefly explain about Adagrad?
10.	Briefly explain about Adam?

Unit-IV

S.No	Part-A Questions(2 Marks)
1.	What is mean by LSTM?
2.	Define pooling?
3.	What is Recurrent Neural Networks?
4.	What is decoder?
5.	Develop a block diagram for LSTM?
6.	Define bidirectional LSTM?
7.	Define auto encoders?
8.	What is mean by sequence modeling?
9.	What is mean by RNN?
10.	What is the full form of DBM?
11.	Compare gradient descent with and without gradient clipping using diagram.
12.	Give the advantage of recursive nets over recurrent nets.
13.	Prepare an example of Encoder?
14.	Draw the block diagram of CNN?
15.	Draw the block diagram of RNN?

S.No	Part-B Questions(10 Marks)
1.	Briefly explain about Convolutional Neural Networks (CNNs
2.	Briefly explain about auto encoder application?
3.	Discuss Recurrent Neural Networks in detail?
4.	Describe the following. i. Long Short-Term Memory. ii. Other Gated RNNs.
5.	Briefly explain about Deep Unsupervised Learning: Autoencoders?
6.	Briefly explain about architecture in CNN?
7.	Briefly explain about bidirectional LSTM?
8.	Briefly explain about Deep Boltzmann Machine?
9.	Briefly explain about operation of CNN?
10.	Briefly explain about Sequence Modeling: Recurrent Neural Networks (RNN)?

Unit-V

S.No	Part-A Questions(2 Marks)
1.	What is Probabilistic PCA and Factor Analysis?
2.	What is Independent Component Analysis?
3.	What are the common application in deep learning?
4.	What is mean by image classification?
5.	What is the full form of NLP?
6.	What is mean by open cv?
7.	What is mean my numpy?
8.	Define tensorflow and kears?
9.	Define sentiment analysis?
10.	Define dimensionality reduction?
11.	Define alexnet?
12.	What is mean by VGGNet?
13.	Draw the architecture of alexnet?

S.No	Part-B Questions(10 Marks)
1.	Explain the process of Hand written digits recognition using Deep Learning?
2.	Briefly explain the application of deep learning?
3.	Briefly explain abou sentiment analysis using deep learning?
4.	Briefly explain about LSTM with Keras?
5.	Briefly explain about Image Dimensionality Reduction using Encoders LSTM with Keras?
6.	Briefly Describe about AlexNet and VGGNet?