

P.V.P SIDDHARTHA INSTITUTE OF TECHNOLOGY	
BRANCH: Computer Science & Engineering	REGULATION: PVP20
Course: B.Tech	SUBJECT: DEEP LEARNING
Subject Code: 20CS4701A	Year and Semester: IV-I
QUESTION BANK	

Unit-I		CO	Level
1	Explain the role of learning rate in neural network performance.	CO1	L2
2	Summarize the significance of Hyperparameters in performance of the model.	CO1	L2
3	Compare and contrast single layered model and multi layered perceptron model.	CO1	L2
4	Identify the differences between Feed forward and Feed backward Neural networks.	CO1	L2
5	Illustrate the Common Architectural Principles of Deep Networks.	CO1	L2
6	Illustrate an objective function of Rectified Linear Unit.	CO1	L2
7	List and explain the various activation functions used in modeling of artificial neuron. Also explain their suitability with respect to applications.	CO1	L2
8	Explain the following terms denoting their notations and equations (where necessary) with respect to deep neural networks:(Any-5) 1) Connection weights and Biases 2) Epoch 3) Layers and Parameters 4) Activation Functions 5) Loss/Cost Functions 6) Learning rate	CO1	L2
9	Explain Activation Functions with diagram and the properties it must hold in neural network model.	CO1	L2
10	What is Hyperparameter and classify various types of Hyperparameter.	CO1	L2
Unit-II			
1	List and explain the principles of Restricted Boltzmann machine with an example.	CO4	L4
2	Explain the difference between the discriminative and generative models.	CO1	L2
3	Identify the benefits of using pre trained networks models.	CO1	L2
4	Demonstrate how a situation like slow learning, becoming stuck in local minima can be handled in deep learning.	CO2	L2
5	Illustrate the roles of the discriminative and generative models. Identify the differences of variational Auto-encoders from Auto encoders.	CO2	L2
6	Illustrate various components and their operations in Generative Adversarial Networks	CO2	L2
7	Explain the phases in Restricted Boltzmann Machine with a neat diagram.	CO2	L2
8	Outline various components and their operations in Deep Belief Networks	CO2	L2
9	(A)List the Hyperparameters for autoencoder. (B)Explain Bottleneck in Architecture of Autoencoders.	CO4	L4
10	Demonstrate the concept of Latent Attributed.	CO4	L4
Unit-III			
1	(A) Examine the convolution operation. (B) List and explain the various activation functions used in modeling of artificial neuron	CO4	L4

2	Summarize the Basic Convolutional Neural Network Architecture	CO1	L2
3	Examine the concept “What happens when the value of stride is high and low? With an example”	CO4	L4
4	Illustrate the operation of pooling layer in CNN with simple example.	CO1	L2
5	Analyse local connections, convolution and full connections with diagram?	CO4	L4
6	Construct a graphical demonstration for parameter sharing and explain it in detail.	CO3	L3
7	Build a table with examples of different formats of data that can be used with convolutional networks.	CO3	L3
8	Distinguish locally connected layers, tiled convolution and standard convolution with suitable examples and diagram.	CO4	L4
9	Illustrate the concept of Unsupervised Features in convolutional neural network.	CO1	L2
10	Explain the following concerning to Convolutional Neural Networks (i)Input Types(ii) Data Types (iii) Structured Outputs	CO1	L2
<b>Unit-IV</b>			
1	Develop an example for Unfolding Computational Graphs and describe the major advantages of unfolding process.	CO3	L3
2	Identify the difference between the Recurrent network and feedforward network?	CO3	L3
3	Identify why vanishing gradient problem occurs in RNN?	CO3	L3
4	Construct any two applications of Deep Recurrent Networks.	CO3	L3
5	Model the structure of LSTM component.	CO3	L3
6	Distinguish between LSTM and gated recurrent units.	CO4	L4
7	Explain impact of Optimization for Long-Term Dependencies.	CO3	L3
8	Explain how to compute the gradient in a Recurrent Neural Network.	CO1	L2
9	Classify various Gated RNNs with their architectures.	CO4	L4
10	Demonstrate Encoder- Decoder RNN architecture with neat sketch.	CO1	L2
<b>Unit-V</b>			
1	Identify the suitable activation function for spectrogram image classification is and defend your statement.	CO3	L3
2	Model the phases of dataset preparation in sentiment analysis.	CO3	L3
3	Develop the concept “How overfitting and Underfitting are recognized in a model dealing with real-time data”.	CO4	L4
4	Conceptualize the process identifying an object from the image using deep learning techniques.	CO4	L4
5	Explain the applications of Deep learning in NLP?	CO1	L2
6	List the applications of Deep learning in Computer Vision?	CO4	L4
7	Show a case study on Deep learning for Speech synthesis.	CO4	L4
8	Analyze the process flow and operations performed in fake news classification.	CO4	L4
9	Analyze the process flow and operations performed in Sentiment Analysis.	CO3	L4
10	List the applications of Deep learning in computer network management.	CO4	L4