

Total No. of Questions : 4]

SEAT No. :

**PD-266**

[Total No. of Pages : 1

**[6411]-41**

**B.E. (Computer Engineering) (Insem)**

**DEEP LEARNING**

**(2019 Pattern) (Semester - VIII) (410251)**

*Time : 1 Hour*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) Answer Q1 or Q2, Q3 or Q4.
- 2) Figures to the right indicate full marks.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Assume suitable data, if necessary.

- Q1)** a) How Deep Learning works in three figures explain with example? Also explain common architectural principles of Deep Network? [5]  
b) Short Note on LSTM networks & GRU networks [5]  
c) Write a Short note on Autoencoders and Restricted Boltzmann Machines [5]

**OR**

- Q2)** a) Enlist and Explain any five popular industrial tools used for Deep Learning [5]  
b) Explain Bias-Variance Tradeoff. [5]  
c) Explain Convolution Neural Networks with Diagram. [5]
- Q3)** a) Enlist Activation functions used in Deep Neural Network. Explain any two of them in detail. [5]  
b) What are the methods for tuning hyperparameters. [5]  
c) What is the Loss function? Enlist all and Explain any two Loss function. [5]

**OR**

- Q4)** a) What is the Biological Neuron & Perceptron? What are the steps involved for training a Perceptron in Deep Learning? [5]  
b) Explain how a Neural Networks can be trained with Back propagation and Forward propagation methods. [5]  
c) Explain Gradient Descent. Why does the vanishing or exploding gradients problem happen? [5]

