Total No. of Questions : 4]

SEAT No. :

**P5247**

[Total No. of Pages : 1

**[6188]-202**

# B.E. (Information Technology) (Insem)

## DEEP LEARNING

## (2019 Pattern) (Semester -VII) (414443)

*Time : 1 Hour]* *[Max. Marks : 30*

***Instructions to the candidates:***

1) *Answer Q.1 or Q.2, and Q.3 or Q.4.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data, if necessary.*

***Q1)*** a) Explain following terms related to multi-layer feed-forward networks. **[5]**

i) Biases

ii) Activation functions

b) Explain loss function for regression operation. **[5]**

c) Define and explain the significance of learning rate of a model? **[5]**

OR

***Q2)*** a) Explain loss function for classification operation. **[5]**

b) Differentiate among RELU, LRELU and ERELU. **[5]**

c) What is regularization? Explain the need for regularization. **[5]**

***Q3)*** a) Explain the following hyper parameters for the convolutional layer. **[8]**

i) Filter size

ii) Output depth

iii) Stride

iv) Zero-padding

b) Explain convolution operation in CNN with a suitable example. Take 5*5 input data, 3*3 kernel data and calculate convoluted features. **[7]**

OR

***Q4)*** a) Draw and explain architecture of AlexNet. **[7]**

b) Explain any four applications of CNNs with suitable diagrams. **[8]**

✡ ✡ ✡