Total No. of Questions : 8]

SEAT No. :

PB-2296

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B.E. (E & TC) (Endsem)

DEEP LEARNING (Elective - IV)

(2019 Pattern) (Semester - VII) (404185C)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Solve any four Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
2) ***Neat diagram must be drawn wherever necessary.***
3) ***Assume suitable data if necessary.***

Q1) a) What is the significance of Batch Normalization? How covariate shift reduced using batch normalization? **[7]**

b) Describe the following activation functions : **[10]**

i) Sigmoid,

ii) Threshold,

iii) ReLU

'Vanishing Gradient' occur in Sigmoid Function and 'Dying ReLU' occur in ReLu - Justify

OR

Q2) a) Write a Note on : **[7]**

i) Dropout Method and

ii) Regularization

b) Explain the concept of Overfitting and Underfitting in deep learning. Support both terms using real time examples? **[10]**

Q3) a) With the help of architectures show that Speed and Accuracy of VGG is greater than AlexNet. **[10]**

b) Show that CNN works same as human brain for image recognition through various steps. **[8]**

OR

P.T.O.

Q4) a) With the help of architecture explain each block of DenseNet in detail. Enlist advantages and disadvantages. **[10]**

b) What is weight initialization? Describe the various weight initialization techniques. **[8]**

Q5) a) Explain the working of RNN with suitable diagram. Illustrate the Vanishing Gradient problem occurs in simple RNN. **[10]**

b) How Name Entity Recognition Problem is fixed using Bidirectional RNN? Explain with the help of suitable diagram. **[7]**

OR

Q6) a) How short term memory problem avoided in LSTM? Explain with the help of suitable diagram. **[10]**

b) What is the difference between LSTM and GRU? Explain the working of GRU with suitable diagram. **[7]**

Q7) a) What is NLP? Enlist the advantages and disadvantages of NLP. **[6]**

b) What is sentiment analysis? Describe the various use cases of sentiment analysis. **[6]**

c) How NLP works in text pre-processing. **[6]**

OR

Q8) a) Differentiate between classical image processing and image deep learning image processing. **[6]**

b) How deep learning works for image classification? **[6]**

c) How deep learning works for Audio Wavenet? **[6]**

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