Total No. of Questions : 8]

SEAT No. : [ ]

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[6181]-115
B.E. (Computer Engineering)
DEEP LEARNING
(2019 Pattern) (Semester - VIII) (410251)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Figures to the right indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Make suitable assumption whenever necessary.***

Q1) a) Explain stride Convolution with example. **[6]**

b) Explain Padding and its types. **[6]**

c) Explain Local response normalization and need of it. **[6]**

OR

Q2) a) Explain ReLU Layer and its advantages. **[6]**

b) Explain Pooling layers and its types with examples. **[6]**

c) What are the applications of Convolution with examples? **[6]**

Q3) a) Draw CNN architecture and explain its working. **[6]**

b) Explain the types of Recurrent Neural Network. **[6]**

c) Justify RNN is better suited to treat sequential data than a feed forward neural network. **[5]**

OR

P.T.O.

Q4) a) Explain Recurrent Neural Network with its architecture. **[6]**

b) Draw and explain architecture for Long Short-Term Memory (LSTM). **[6]**

c) Explain how the memory cell in the LSTM is implemented computationally? **[5]**

Q5) a) Explain Deep generative model with example. **[6]**

b) How does GAN training scale with batch size? **[6]**

c) List the applications of GAN network with description. **[6]**

OR

Q6) a) Draw and explain architecture of Boltzmann machine. **[6]**

b) Explain different types of GAN. **[6]**

c) Explain Deep Belief Network with diagram. **[6]**

Q7) a) Explain dynamic programming algorithms for reinforcement learning. **[6]**

b) What is deep reinforcement learning? Explain in detail. **[6]**

c) Explain Simple reinforcement learning for Tic-Tac-Toe. **[5]**

OR

Q8) a) Explain Markov decision process. **[6]**

b) Write Short Note on Q Learning and Deep Q-Networks. **[6]**

c) What are the challenges of reinforcement learning? Explain any four in detail. **[5]**