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Roll No

CS-702(B)-CBGS

B.Tech., VII Semester

Examination, December 2020

Choice Based Grading System (CBGS)

Deep and Reinforcement Learning

Time : Three Hours

Maximum Marks : 70

- Note:** i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Draw and explain McCulloch Pitts neuron Model.
b) Explain the Single Layer Neural Network architecture with suitable activation function.
2. a) Derive the Back Propagation Through Time (BPTT) algorithm used to train the recurrent neural network.
b) Explain sparse and contractive auto encoders.
3. a) Draw and explain the architecture of Convolutional Network.
b) Explain Better Weight Initialization Methods.
4. a) If the activation function of all hidden unit is linear, show that a MLP is equivalent to a single layer perceptron.
b) Explain ResNet and LeNet in detail.
5. Explain following term:
 - i) Guided Back propagation
 - ii) Dataset augmentation
 - iii) LSTM

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6.
 - a) Explain the Q Function and Q Learning Algorithm.
 - b) Explain Policy Gradient Algorithm for Full RL.
7.
 - a) Explain value iteration, policy iteration and Temporal Difference Learning.
 - b) Discuss Bandit Algorithms in details.
8. Write short notes (any three):
 - i) Reinforcement Learning
 - ii) Actor-Critic Method
 - iii) Group Normalization
 - iv) PCA
