

**K. J. Somaiya Institute of Engineering and Information Technology, Sion, Mumbai-22**

**(Autonomous College Affiliated to University of Mumbai)**

**End Semester Exam (Nov – Dec 2021)**

**(B.Tech) Program: Information Technology**

**Examination: LY Semester: VII**

**Course Code: IUITDLC7041 and Course Name: Deep Learning**

**Duration: 03 Hours**

**Max. Marks: 60**

**Instructions:**

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

		<b>Max. Marks</b>	<b>CO</b>	<b>BT level</b>
<b>Q 1</b>	<b>Solve any six questions out of eight:</b>	<b>12</b>		
<b>i)</b>	Explain Perceptron learning rule.	2M	CO1	Understand
<b>ii)</b>	List and explain issues in Neural Network Training.	2M	CO2	Understand
<b>iii)</b>	Explain possible stopping conditions in training a Neural Network.	2M	CO3	Understand
<b>iv)</b>	Explain Softmax activation function in CNN.	2M	CO3	Understand
<b>v)</b>	Explain automatic image captioning using RNN.	2M	CO4	Understand

vi)	Discuss multi-arm bandit problem.	2M	CO5	Understand
vii)	Explain bootstrapping for value function learning.	2M	CO5	Understand
viii)	List the applications of GAN.	2M	CO6	Understand
<b>Q.2</b>	<b>Solve any four questions out of six.</b>	<b>16</b>		
i)	Explain with the help of diagram the structure of perceptron.	4M	CO1	Understand
ii)	Explain Overfitting. List and explain the methods that are used to reduce the impact of overfitting.	4M	CO2	Understand
iii)	Explain briefly the limitations of CNN.	4M	CO3	Understand
iv)	With the help of suitable diagram explain ESN	4M	CO4	Understand
v)	Apply the concept of deep reinforcement learning in self-learning robots?	4M	CO5	Apply
vi)	Discuss various challenges in using GAN.	4M	CO6	Understand
<b>Q.3</b>	<b>Solve any Two questions out of three.</b>	<b>16</b>		
i)	List and analyze the issues in Neural Network Training.	8M	CO2	Analyze
ii)	Analyze end-to-end speech recognition using RNN.	8M	CO4	Analyze
iii)	Evaluate the generative models?	8M	CO6	Evaluate
<b>Q.4</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		
i)	Apply the concept of deep reinforcement learning in developing chatbots?	8M	CO5	Apply

ii)	Explain the main building block of CNN with the help of CNN architecture diagram.	8M	CO3	Understand
iii)	Apply Logical OR operation using perceptron	8M	CO1	Apply