

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER VIII - EXAMINATION –WINTER-2022

Subject Code: 2688602**Date: 19/12/2022****Subject Name: Advance Machine Learning****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define Terms (ANY FOUR) : **08**
 a) Hyper Parameter b) CycleGAN
 c) Shallow Neural Network d) Finite state automata e) SARSA
- (b) Discuss similarity and dissimilarity of Machine Learning and Deep Learning. **06**
- Q.2** (a) Explain how to Read , Resize and Rotate Image using OpenCV? **07**
 (b) What is the importance of activation function? Explain in brief Sigmoid and Relu activation functions. **07**
- OR**
- (b) List and explain in brief components of CNN. **07**
- Q.3** (a) Explain with steps how to create model using Sequential API of keras. **07**
 (b) i) Differentiate between Positive and Negative Reinforcement. **04**
 ii) Explain application of Max pooling on Feature Map. **03**
- OR**
- Q.3** (a) What is RNN? Discuss two issues related to RNN. How to solve them? **07**
 (b) i) Explain stride and Kernel Size used in CNN. **04**
 ii) How Reinforcement Learning is different from supervised learning? **03**
- Q.4** (a) What is Reinforcement Learning? Discuss any three key terms related to Reinforcement Learning. **07**
 (b) What is Pix2Pix GAN? How Pix2Pix GAN works? **07**
- OR**
- Q.4** (a) Please comment: Markov Decision Process formalize the reinforcement learning problem. **07**
 (b) What is GAN? How it works? **07**
- Q.5** (a) What is NLP? Discuss pros and cons of NLP. **07**
 (b) List and explain various methods used for text similarity calculation. **07**
- OR**
- Q.5** (a) Explain how knowledge is extracted from speech and language. **07**
 (b) Explain in brief Sentiment analysis using suitable example. **07**
