

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER VIII- EXAMINATION –WINTER-2023

Subject Code:2688602**Date: 06/12/2023****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.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1** (a) Explain the following terms:
1. Hyper Parameters **02**
 2. Gradient Descent **02**
 3. Activation Function **03**
- (b) Explain the application of Deep Learning. **07**
- Q.2** (a) Differentiate between Deep Learning and Machine Learning. **07**
- (b) What is Neural Networks and Shallow Neural Networks? **07**
- OR**
- (b) How to Read and save images using OpenCV? **07**
- Q.3** (a) What is CNN? Discuss advantages and challenges of CNN. **07**
- (b) Explain in brief LSTM. **07**
- OR**
- Q.3** (a) What is RNN? Discuss types of RNN? **07**
- (b) Explain Terms : Theano, PlaidML and Keras. **07**
- Q.4** (a) What is GAN? How it is differ from other machine learning model? **07**
- (b) Explain search algorithm for sequential decision process. **07**
- OR**
- Q.4** (a) Explain Q-Learning Algorithm with example. **07**
- (b) Explain in brief Bellman's Equation for Decision process. **07**
- Q.5** (a) Explain step-by-step DQNS algorithm. **07**
- (b) What is NLP? Explain elements of NLP. How does NLP work? **07**
- OR**
- Q.5** (a) Explain Corpus, Vocabulary, bag of words with example. **07**
- (b) Explain different methods for calculating Text Similarity. **07**
