Enrolment No. /Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA INTEGRATED– SEMESTER VIII- EXAMINATION –SUMMER-2024

Subject Code: 2688602 **Date: 03/05/2024**

Subject Name: Advance Machine Learning

Time: 10:30 AM TO 01:00 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)**	What is Shallow Neural Network?	**02**
	(b)	What is Deep Learning? How it is different from Machine learning?	**04**
	(c)	Explain Terms: Same Padding, Valid Padding	**04**
	(d)	Define: Hyper Parameter, CGAN	**04**
Q.2	**(a)**	List components of CNN. Discuss in Brief each of them.	**07**
	(b)	Discuss basic operation on Images using OpenCV.	**07**
		OR	
	(b)	What are activation functions? Why we need them? How they work?	**07**
Q.3	**(a)**	Explain Q-Learning Algorithm with example.	**07**
	(b)	Using suitable example discuss techniques and methods used in NLP.	**07**
		OR	
Q.3	**(a)**	What are the challenges and benefits of NLP?	**07**
	(b)	Explain Corpus, Vocabulary, bag of words with example.	**07**
Q.4	**(a)**	Explain SARSA algorithm in brief.	**07**
	(b)	What is RNN? Why RNN? Discuss types of RNN	**07**
		OR	
Q.4	**(a)**	What is Generative Adversarial Networks (GAN)? How it works?	**07**
	(b)	What is DQNS? How it is connected with deep learning?	**07**
Q.5	**(a)**	Explain how RNN is used for Stock prediction.	**07**
	(b)	i) What is LSTM?	**04**
		ii) What is Pix2Pix GAN?	**03**
		OR	
Q.5	**(a)**	What is Automata? Explain finite state Automata	**07**
	(b)	i) How do machine talk?	**04**
		ii) What is TFIDF similarity?	**03**

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