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

Subject Code: 2688602   **Date: 28/06/2023**
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)**	**(i) Answer the following.**	**03**
		1. Explain WordNet in short.	
		2. Define reinforcement learning.	
		3. List the applications of GAN.	
		(ii) List the applications and types of recurrent neural network.	**04**
	(b)	Differentiate machine leaning and deep learning.	**07**
Q.2	**(a)**	(i) Discuss automata in natural language processing.	**03**
		(ii)Explain SARSA algorithm in brief.	**04**
	(b)	Explain following:	**07**
		i. Exploding gradient problem **ii**. Vanishing gradient problem	
		OR	
	(b)	Discuss backpropagation with reference to training of neural networks.	**07**
Q.3	**(a)**	Discuss the concept of convolutional neural network in brief.	**07**
	(b)	Explain value function in reinforcement learning.	**07**
		OR	
Q.3	**(a)**	Briefly discuss generative adversarial Network in detail.	**07**
	(b)	Write short note on recurrent neural network.	**07**
Q.4	**(a)**	Explain long short-term memory network.	**07**
	(b)	Explain deep convolutional GAN in detail.	**07**
		OR	
Q.4	**(a)**	Discuss the concept of markov decision process.	**07**
	(b)	Write short note on Q-Learning algorithm.	**07**
Q.5	**(a)**	Explain text tokenization using regular expressions in NLP.	**07**
	(b)	Write a code snippet of reading and writing an image in OpenCV using python.	**07**
		OR	
Q.5	**(a)**	Explain part of speech tagging with appropriate example.	**07**
	(b)	Explain sentimental analysis with example.	**07**

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