# GUJARAT TECHNOLOGICAL UNIVERSITY

## MCA Integrated - SEMESTER–VII• EXAMINATION – SUMMER • 2022

**Subject Code: 2678601**                                             **Date: 01/06/2022**

**Subject Name:** 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.

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|---|---|---|---|
| **Q.1(a)** | Explain the Following Terms. | | |
| | 1. Define Machine Learning | | 02 |
| | 2. Spam filtering | | 02 |
| | 3. PCA | | 02 |
| | 4. Wrapper approach | | 01 |
| **(b)** | Discuss the human learning vs machine learning. | | **07** |
| **Q.2(a)** | State importance of data preprocessing in machine learning. | | **07** |
| **(b)** | Differentiate briefly Classification and Regression Technique of ML. | | **07** |

**OR**

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|---|---|---|---|
| **(b)** | Discuss supervised and unsupervised machine learning algorithm. | | **07** |
| **Q.3(a)** | What is Feature Extraction? Discuss PCA algorithm of feature extraction. | | **07** |
| **(b)** | Explain the concept of Naive Bayesian theorem. | | **07** |

**OR**

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|---|---|---|---|
| **(a)** | Discuss Linear and Multi linear Regression method. | | **07** |
| **(b)** | Explain Back propagation Neural network. | | **07** |
| **Q.4(a)** | Explain features engineering. | | **07** |
| **(b)** | Discuss Algorithm of Decision tree. | | **07** |

**OR**

| | | | |
|---|---|---|---|
| **(a)** | Discus the steps of Apriori Algorithm. | | **07** |
| **(b)** | Discuss Clustering concept and its Features. | | **07** |
| **Q.5(a)** | What is Reinforcement Learning method? List its various algorithms. Explain any one of them. | | **07** |
| **(b)** | Discuss the concept of Association mining and Market basket analysis. | | **07** |

**OR**

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|---|---|---|---|
| **(a)** | Write the SVM model in detail. | | **07** |
| **(b)** | Write a detail note on learning process in ANN. | | **07** |

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