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**M.Tech. 2nd Semester (Artificial Intelligence and Data
Science) Examination, July-2022**

MACHINE LEARNING

Paper-21MTA122C1

Time allowed : 3 hours]

[Maximum marks : 100

*Note : Attempt five questions in all, selecting one question
from each unit. Q. No. 1 is compulsory.*

1. Write short note on following :
 - (i) Supervised Learning
 - (ii) Perceptron
 - (iii) Clustering
 - (iv) LQR

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Unit-I

2. Define Machine Learning, explain goals and applications of machine learning. 20
3. Give a brief description about Linear discriminative and non-linear discriminative classification families. 20

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Unit-II

4. Describe the following :
- (i) Gaussian Discriminant Analysis
 - (ii) Logistic Regression
- 20
5. Explain the following :
- (i) Feature selection
 - (ii) Evaluation of machine learning algorithms
- 20

Unit-III

6. What is Independent Components Analysis. Why are use it in machine learning.
- 20
7. Describe the following :
- (i) Spectral Clustering
 - (ii) Markov Models
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Unit-IV

8. Describe the following :
- (i) LQG
 - (ii) Bellmen equations
- 20
9. Give a complete description about Reinforcement learning.
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