

Roll No: 

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**MBA**  
**(SEM III) THEORY EXAMINATION 2024-25**  
**AI AND ML FOR BUSINESS**

TIME: 3 HRS

M.MARKS: 100

**Note:** Attempt all Sections. In case of any missing data; choose suitably.

**SECTION A**

**1. Attempt all questions in brief. 2 x 10 = 20**

Q no.	Question	CO	Level
a.	What are the advantages of machine learning?	1	K1
b.	Classify is the difference between data and information?	1	K2
c.	Explain ANN.	2	K2
d.	What is Genetic algorithm	2	K1
e.	What is meta data.	3	K1
f.	Illustrate Activation function in Convolutional Layer.	3	K2
g.	Explain Density Based Clustering.	4	K2
h.	Explain Reinforcement learning.	5	K2
i.	Discuss applications of Multivariate Regression.	4	K2
j.	Discuss unsupervised learning.	3	K2

**SECTION B**

**2. Attempt any three of the following: 10 x 3 = 20**

Q no.	Question	CO	Level
a.	Explain the steps in Knowledge acquisition process in detail with proper block diagram.	1	K2
b.	Differentiate between supervised and unsupervised learning	2	K4
c.	Explain Apriori Algorithm with example.	3	K3
d.	Explain the backpropagation algorithm and how it works in training neural networks?	4	K2
e.	Critically evaluate the limitations of the Q-learning algorithm in environments with large state-action spaces and continuous variables. Propose potential solutions, such as the use of function approximators or Deep Q-Learning, to overcome these challenges and enhance the algorithm's applicability in complex business scenarios.	5	K5

**SECTION C**

**3. Attempt any one part of the following: 10 x 1 = 10**

Q no.	Question	C O	Level
a.	How do Data Science and Machine Learning differ from each other?	1	K4
b.	Write Short Notes on: 1. Reinforcement Learning 2. Genetic Algorithm	1	K2

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**4. Attempt any one part of the following: 10 x 1 = 10**

Q no.	Question	CO	Level
a.	Explain how the K-Nearest Neighbors (KNN) algorithm works, including its steps, advantages, disadvantages, and common use cases?	2	K2
b.	How do linear regression and nonlinear regression differ in terms of their methods, applications, advantages, and limitations?	2	K4

**5. Attempt any one part of the following: 10 x 1 = 10**

Q no.	Question	CO	Level
a.	What is clustering? Explain K-mean Clustering with relevant example.	3	K2
b.	Explain OPTICS method with relevant example.	3	K2

**6. Attempt any one part of the following: 10 x 1 = 10**

Q no.	Question	CO	Level
a.	What is Deep learning? What are some applications of deep learning in business development.	4	K2
b.	Describe various layers of CNN.	4	K2

**7. Attempt any one part of the following: 10 x 1 = 10**

Q no.	Question	CO	Level
a.	Discuss the key applications of RL in business, focusing on areas such as dynamic pricing, supply chain management, personalized marketing, and resource allocation.	5	K3
b.	Explain hidden Markov model. Also elaborate on its implementation issues.	5	K2