

# CBCS SCHEME

22MBABA403

USN



## Fourth Semester MBA Degree Examination, June/July 2024 Machine Learning

Max. Marks: 100

- Note: 1. Answer any FOUR full questions from Q1 to Q7.  
2. Question No.8 is compulsory.  
3. M : Marks , L: Bloom's level , C: Course outcomes.*

			M	L	CO
Q.1	a.	What is Machine Learning? Explain with an example.	03	L2	CO1
	b.	Discuss Computer Hardware Architecture for Machine Learning.	07	L2	CO1
	c.	Discuss Programming language for Machine Learning.	10	L3	CO2
Q.2	a.	Distinguish between Supervised and Unsupervised Learning in Machine Learning.	03	L4	CO3
	b.	Discuss any 2 Regression models used in machine learning with an example application for each.	07	L3	CO2
	c.	Compare any two classification models used in Machine Learning.	10	L4	CO3
Q.3	a.	What is a decision tree and write an example.	03	L2	CO1
	b.	Examine entropy with an example.	07	L4	CO3
	c.	Explain ID3 – Algorithm with an example.	10	L2	CO1
Q.4	a.	What is an Ensemble model and write an example.	03	L2	CO1
	b.	Distinguish bagging and boosting with an example.	07	L4	CO3
	c.	Illustrate stacking with an example.	10	L2	CO1
Q.5	a.	Explain Reinforcement Learning and give an example.	03	L2	CO1
	b.	Illustrate Q-learning with an example.	07	L2	CO1
	c.	Compare and contrast Reinforcement Learning relation to Dynamic Programming and Active Reinforcement learning.	10	L5	CO4
Q.6	a.	What is virtual reality and give an example.	03	L2	CO1
	b.	Compare the importance of Flight Simulation as opposed to traditional flight training methods. Where else does flight simulator play an important role?	07	L4	CO3
	c.	Examine Virtual Environment requirements.	10	L4	CO3
Q.7	a.	What is Augmented Reality and give example.	03	L2	CO1
	b.	Elaborate on motivation and sampling theory in reinforcement learning.	07	L2	CO1
	c.	List and elaborate the various Visualization Techniques used in augmented reality.	10	L4	CO3

Q.8	<p><b>CASE STUDY</b></p> <p>A local supermarket chain, “Fresh Mart” is facing declining sales in the past three quarters. Fresh Mart focuses on produce (fresh fruits and vegetables), dairy products and bakery. Their high margin section is bakery as they bake bread, cakes and pastries in house. However, with the mushrooming of individual bakers, who operate from home, the sales of bakery goods have been declining. The management of Fresh Mart has hired you to help them resolve their challenges. The management has set the following objectives :-</p> <p>i) Predict whether a customer is likely to purchase a baked product (bread, cake, pastry)</p> <p>ii) Increase the customer purchases by interactions with the products.</p> <p>iii) Use advanced technology to enhance customer experience of shopping at Fresh Mart.</p> <p>Present the concept and application of the following algorithms to the management of Fresh Mart :</p>			
a.	Decision Tree algorithm.	10	L5	CO4
b.	Reinforcement Learning.	5	L5	CO4
c.	Augmented reality.	5	L5	CO4
	Provide adequate justifications to defend your presentation.			

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