PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE (AUTONOMOUS) III B.TECH I SEMESTER END SUPPLEMENTARY EXAMINATIONS, MARCH/APRIL – 2023 MACHINE LEARNING

(Common to AIDS, AIML Branches)

Time: 3 hours

Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B) PART-A

Answer all the questions in Part-A (5X2=10M)_

Q.No.		Questions	Marks	CO	KL
1.	a)	What are the important components of Learning?	[2M]	1	2
	b)	How is a decision tree pruned?	[2M]	2	1
	c)	List out the various Classification Algorithms?	[2M]	3	2
	d)	Define Ensemble Learning?	[2M]	4	3
	e)	What is meant by fitness function?	[2M]	5	2

<u>PART-B</u> Answer One Question from each UNIT (5X10=50M)

Questions	Marks	CO	KL	
UNIT-I				
Explain Re-Inforcement learning with example?	[5M]	1	2	
Discuss Geometric models with example?	[5M]	1	4	
OR				
Explain Different perspectives and issues in Machine Learning?	[5M]	1	2	
What are the functions of supervised Learning? Explain Briefly?	[5M]	1	3	
UNIT-II				
Define K-Mode Clustering? With Example?	[5M]	2	2	
Explain the single perceptron with its learning algorithm?	[5M]	2	3	
OR				
Discuss K-Nearest Neighboring Algorithm?	[5M]	2	6	
Explain multilayer Perception with the help of a diagram?	[5M]	2	2	
UNIT-III				
Construct the difference between Bagging and Boosting?	[5M]	3	6	
Explain the Expectation-Maximization (EM) Algorithm?	[5M]	3	2	
OR				
Explain the Q Learning Algorithm assuming deterministic reward and actions with example?	[5M]	3	3	
Discuss the Adaboosting Algorithm?	[5M]	3	2	
UNIT-IV				
Explain Generalization in reinforcement learning?	[5M]	4	4	
Discuss the Binomial Distribution in Machine Learning?	[5M]	4	2	
OR				
Explain Active reinforcement learning with example?	[5M]	4	3	
Discuss about Estimating Binomial Proportions?	[5M]	4	4	
UNIT-V				
	UNIT-I Explain Re-Inforcement learning with example? Discuss Geometric models with example? OR Explain Different perspectives and issues in Machine Learning? What are the functions of supervised Learning? Explain Briefly? UNIT-II Define K-Mode Clustering? With Example? Explain the single perceptron with its learning algorithm? Explain the single perceptron with its learning algorithm? Discuss K-Nearest Neighboring Algorithm? Explain multilayer Perception with the help of a diagram? UNIT-III Construct the difference between Bagging and Boosting? Explain the Expectation-Maximization (EM) Algorithm? OR Explain the Q Learning Algorithm assuming deterministic reward and actions with example? Discuss the Adaboosting Algorithm? Explain Generalization in reinforcement learning? Discuss the Binomial Distribution in Machine Learning? OR Explain Active reinforcement learning with example? Discuss about Estimating Binomial Proportions?	UNIT-I UNIT-I Explain Re-Inforcement learning with example? [5M] Discuss Geometric models with example? [5M] OR Explain Different perspectives and issues in Machine Learning? [5M] What are the functions of supervised Learning? Explain Briefly? [5M] What are the functions of supervised Learning? [5M] UNIT-II Define K-Mode Clustering? With Example? [5M] Explain the single perceptron with its learning algorithm? [5M] OR OR Discuss K-Nearest Neighboring Algorithm? [5M] UNIT-II Construct the difference between Bagging and Boosting? [5M] Explain the Expectation-Maximization (EM) Algorithm? [5M] OR UNIT-IV UNIT-IV Explain Generalization in reinforcement learning? [5M] OR OR OR Explain Generalization in reinforcement learning? [5M] <td cols<="" td=""><td>UNIT-IExplain Re-Inforcement learning with example?[5M]1Discuss Geometric models with example?[5M]1ORExplain Different perspectives and issues in Machine Learning?[5M]1What are the functions of supervised Learning? Explain Briefly?[5M]1UNIT-IIDefine K-Mode Clustering? With Example?[5M]2CoRORUNIT-IIDiscuss K-Nearest Neighboring Algorithm?[5M]2CoRUNIT-IIIConstruct the difference between Bagging and Boosting?[5M]3ORExplain the Expectation-Maximization (EM) Algorithm?[5M]3ORUNIT-IIIConstruct the difference between Bagging and Boosting?[5M]3ORExplain the Q Learning Algorithm assuming deterministic reward and actions with example?[5M]3UNIT-IVExplain Generalization in reinforcement learning?[5M]4ORUNIT-IVExplain Generalization in reinforcement learning?[5M]4Discuss the Binomial Distribution in Machine Learning?[5M]4ORExplain Active reinforcement learning?[5M]4Discuss about Estimating Binomial Proportions?</td></td>	<td>UNIT-IExplain Re-Inforcement learning with example?[5M]1Discuss Geometric models with example?[5M]1ORExplain Different perspectives and issues in Machine Learning?[5M]1What are the functions of supervised Learning? Explain Briefly?[5M]1UNIT-IIDefine K-Mode Clustering? With Example?[5M]2CoRORUNIT-IIDiscuss K-Nearest Neighboring Algorithm?[5M]2CoRUNIT-IIIConstruct the difference between Bagging and Boosting?[5M]3ORExplain the Expectation-Maximization (EM) Algorithm?[5M]3ORUNIT-IIIConstruct the difference between Bagging and Boosting?[5M]3ORExplain the Q Learning Algorithm assuming deterministic reward and actions with example?[5M]3UNIT-IVExplain Generalization in reinforcement learning?[5M]4ORUNIT-IVExplain Generalization in reinforcement learning?[5M]4Discuss the Binomial Distribution in Machine Learning?[5M]4ORExplain Active reinforcement learning?[5M]4Discuss about Estimating Binomial Proportions?</td>	UNIT-IExplain Re-Inforcement learning with example?[5M]1Discuss Geometric models with example?[5M]1ORExplain Different perspectives and issues in Machine Learning?[5M]1What are the functions of supervised Learning? Explain Briefly?[5M]1UNIT-IIDefine K-Mode Clustering? With Example?[5M]2CoRORUNIT-IIDiscuss K-Nearest Neighboring Algorithm?[5M]2CoRUNIT-IIIConstruct the difference between Bagging and Boosting?[5M]3ORExplain the Expectation-Maximization (EM) Algorithm?[5M]3ORUNIT-IIIConstruct the difference between Bagging and Boosting?[5M]3ORExplain the Q Learning Algorithm assuming deterministic reward and actions with example?[5M]3UNIT-IVExplain Generalization in reinforcement learning?[5M]4ORUNIT-IVExplain Generalization in reinforcement learning?[5M]4Discuss the Binomial Distribution in Machine Learning?[5M]4ORExplain Active reinforcement learning?[5M]4Discuss about Estimating Binomial Proportions?

Code No: P18AMT03										
10.	a)	Explain the Evolution steps of Genetic Algorithm?	[5M]	5	2					
	b)	Illustrate Hypothesis Space Search?	[5M]	5	4					
OR										
11.	a)	Discuss Genetic Programming with example?	[5M]	5	3					
	b)	Explain Genetic Operator with example?	[5M]	5	2					
