MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

III B.Tech I Sem Supply End Examination, July 2022
Machine Learning
(IT)

Time: 3 Hours.   Max. Marks: 70

Note: 1. Question paper consists: Part-A and Part-B.
2. In Part – A, answer all questions which carries 20 marks.
3. In Part – B, answer any one question from each unit.
   Each question carries 10 marks and may have a, b as sub questions.

PART- A
                                          (10*2 Marks = 20 Marks)

1.	a)	What is version space?	2M	CO1	BL1
	b)	What is the influence of information theory on machine learning?	2M	CO1	BL4
	c)	What is a perceptron?	2M	CO2	BL1
	d)	Differentiate between true error and sample error.	2M	CO2	BL4
	e)	Compare eager learners and lazy learners.	2M	CO3	BL3
	f)	What is meant by consistent learner?	2M	CO3	BL2
	g)	Illustrate cross over operation.	2M	CO4	BL2
	h)	How to compute FOIL gain?	2M	CO4	BL3
	i)	What is the role of regression procedure in computing the weakest preimage?	2M	CO5	BL2
	j)	What is meant by knowledge compilation?	2M	CO5	BL2

PART- B
                                          (10*5 Marks = 50 Marks)

2	a)	Discuss the issue of over fitting the training data with example.	5M	CO1	BL2
	b)	Contrast the hypothesis space search performed by ID3 with candidate elimination algorithm.	5M	CO1	BL4

OR

3	What is meant by machine learning? What is its need to today's society? Explain successful applications of machine learning.	10M	CO1	BL2

4	a)	Describe a procedure to estimate the difference in error between two learning methods.	5M	CO2	BL4
	b)	Compare recurrent network with multi-layer feed forward network.	5M	CO2	BL5

OR

5	Explain back propagation algorithm for training a neural network for learning task.	10M	CO2	BL2

6	a)	How does Bayesian method outperform decision tree? What is the practical difficulty in applying Bayesian methods?	5M	CO3	BL3
	b)	Describe VC dimension for neural networks.	5M	CO3	BL4

OR

7	Demonstrate distance-weighted k-nearest neighbor algorithm with an example dataset.	10M	CO3	BL2

8	a)	Demonstrate induction as inverted deduction.	5M	CO4	BL2
	b)	Compare reinforcement learning to dynamic programming.	5M	CO4	BL4

OR

9	How to perform parallelization of genetic algorithms? Explain with examples.	10M	CO4	BL5

10	a)	What is the inductive bias of PROLOG-EBG?	5M	CO5	BL1
	b)	How to use prior knowledge to alter the available search steps?	5M	CO5	BL4

OR

11	Write KBANN algorithm to explain usage of prior knowledge to reduce complexity.	10M	CO5	BL5

---oo0oo---