Vth Sem. B. Tech –Course work
END-SEMESTER EXAMINATION, Nov, 2022

Course Code: CACSC17
Course Title: Machine Learning
Time: **3 Hours** Max. Marks: **40**

Note: Attempt all the five questions. Missing data / information (if any), may be suitably assumed and mentioned in the answer.

Q. No.	Question	Marks	CO
Q 1	**Attempt any 2 parts of the following**		
1a	What is learning system? Explain various categories of learning in machine learning.	4	CO1
1b	Differentiate general and specific hypothesis with suitable example. Write the candidate elimination algorithm.	4	CO1
1c	Write the steps in find S algorithm. Explain unanswered question by find S algorithm.	4	CO1
Q 2	**Attempt any 2 parts of the following**		
2a	Explain ensemble learning. How does boosting classifier works on dataset.	4	CO2
2b	What is cross validation? Explain various types of cross validations.	4	CO2
2c	What are various learning curves used for comparing learning algorithms. Explain at least two of them in detail.	4	CO2
Q 3	**Attempt any 2 parts of the following**		
3a	What is probably approximately correct (PAC) learning. What will be minimum number of samples for a concept to be learned which can be described by conjunctions of up to 10 Boolean literals with 95% probability that a hypothesis be learned with error less than 10%.	4	CO3
3b	Explain VC dimension with example? Why is VC dimension used?	4	CO3
3c	Explain sample complexity for finite hypothesis spaces with suitable example.	4	CO4
Q 4	**Attempt any 2 parts of the following**		
4a	Explain First Order Inductive Learner. Explain its working with performance evaluation measure.	4	CO3
4b	What is perceptron model? Explain the working of perceptron.	4	CO4
4c	Explain recurrent neural network. What are various advantages and disadvantages of recurrent neural network?	4	CO5
Q 5	**Attempt any 2 parts of the following**		
5a	Explain support vector machine. Why is SVM kernel important? Write advantages of SVM.	4	CO5
5b	Explain generative and discriminative models of training. Differentiate generative and discriminative models.	4	CO4
5c	Explain logistic regression. What are various types of logistic regression?	4	CO5