CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐ 17EC834

Eighth Semester B.E. Degree Examination, Feb./Mar. 2022
Machine Learning

Time: 3 hrs. Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1	a.	List four successful applications of Machine Learning.	(04 Marks)
	b.	Describe the steps in designing Learning system.	(06 Marks)
	c.	Describe the Inductive bias of Candidate Elimination Algorithm with relevant diagrams.	(10 Marks)

OR

2	a.	Brief the perspectives in Machine Learning with example.	(10 Marks)
	b.	List any five issues in Machine Learning.	(10 Marks)

Module-2

3	a.	What is the Gradient descent algorithm for training a linear unit?	(10 Marks)
	b.	Describe the ID$_3$ algorithm for decision tree training with example.	(10 Marks)

OR

4	a.	What is decision tree and discuss the use of decision tree for classification problem?	(10 Marks)
	b.	What is Reduced error pruning and Rule post pruning?	(10 Marks)

Module-3

5	a.	List features of Baysian learning and explain Gradient Ascent Training of Baysian Network.	(10 Marks)
	b.	Show that maximum likelihood (Baysian learning) can be used in any learning algorithm that are used in minimize the squared error between actual output hypothesis and predicted output hypothesis.	(10 Marks)

OR

6	a.	What is the Brute Force Map Learning Algorithm? Explain briefly.	(10 Marks)
	b.	Briefly describe Minimum Description length principle.	(10 Marks)

Module-4

7	a.	What is the K – nearest neighbour learning? Explain briefly.	(07 Marks)
	b.	Define the following : i) Regression ii) Residual iii) Kernal function.	(03 Marks)
	c.	What is Case based Reasoning? Explain with example.	(10 Marks)

OR

8	a.	What is the general to Specific Beam Search? Explain briefly?	(10 Marks)
	b.	Explain briefly the Weighted Linear Regression.	(10 Marks)

Module-5

9	a.	Explain FOCL algorithm with an example.	(10 Marks)
	b.	Explain Reinforcement learning problem with necessary diagram.	(10 Marks)

OR

10	a.	Explain the remarks on Explanation based.	(10 Marks)
	b.	Explain briefly the Hypothesis Space Search.	(10 Marks)

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