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15EC834

Eighth Semester B.E. Degree Examination, November 2020 Machine Learning

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions irrespective of modules.

Module-1

- 1 a. Explain briefly the choosing a representation for the target function and a function approximation algorithm. (08 Marks)
- b. With the diagram, explain the final design of the checkers learning program. (08 Marks)

- 2 a. What is the concept Learning task, explain with as example. (08 Marks)
- b. Explain the candidate elimination learning algorithm. (08 Marks)

Module-2

- 3 a. Explain the decision tree for the concept of play tennis. (08 Marks)
- b. What is reduced error pruning and rule post pruning? (08 Marks)

- 4 a. What is the gradient descent algorithm for training a linear unit? (08 Marks)
- b. Explain the back propagation algorithm for feed forward network containing two layers of sigmoid units? (08 Marks)

Module-3

- 5 a. What is the Baye's theorem, explain briefly with an example. (08 Marks)
- b. What is the Brute-force MAP learning algorithm, explain briefly. (08 Marks)

- 6 a. Explain the minimum description length principle. (08 Marks)
- b. What is the Naïve Baye's classifier? Explain briefly. (08 Marks)

Module-4

- 7 a. What is the k-nearest neighbor learning? Explain briefly. (08 Marks)
- b. Explain briefly the locally weighted linear Regression. (08 Marks)

- 8 a. What is the general to specific Beam search? Explain briefly. (08 Marks)
- b. What is learning sets of First Order Rule (FOIL)? Explain briefly. (08 Marks)

Module-5

- 9 a. What is the explanation based learning algorithm PROLOG – EBG? Explain briefly. (08 Marks)
- b. Explain the remarks on explanation based learning. (08 Marks)

- 10 a. Explain briefly the Hypothesis space search. (08 Marks)
- b. What is the FOCL algorithm? Explain briefly. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.