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15CS/IS562

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021

Artificial Intelligence

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. What is an AI technique? Explain in terms of knowledge representation. (05 Marks)
- b. Distinguish Breadth-First search and Depth First search. (06 Marks)
- c. Write an algorithm for simple Hill climbing. (05 Marks)

OR

- 2 a. On what dimensions problems are analyzed? (08 Marks)
- b. Mention issues in design of search problem. (03 Marks)
- c. Write a note on constraint satisfaction. (05 Marks)

Module-2

- 3 a. Explain and illustrate unification algorithm. (06 Marks)
- b. What are the properties of a good system for the representation of knowledge? (04 Marks)
- c. Discuss how forward reasoning is different from backward reasoning. (06 Marks)

OR

- 4 a. With an illustration explain the process of converting well formed formulas to clause form. (08 Marks)
- b. Write a note on : i) Conflict resolution ii) Logic programming. (08 Marks)

Module-3

- 5 a. With an example, explain semantic networks. (05 Marks)
- b. What is nonmonotonic reasoning? Describe logics for monotonic reasoning. (05 Marks)
- c. Which are the key issues to be addressed in nonmonotonic reasoning system? (06 Marks)

OR

- 6 a. Describe the implementation issues of nonmonotonic reasoning system. (05 Marks)
- b. Write a note on Bayesian networks. (05 Marks)
- c. Explain a simplified frame system with an example. (06 Marks)

Module-4

- 7 a. Why we should build a large knowledge base? (04 Marks)
- b. Write the algorithm for MINIMAX. (08 Marks)
- c. What is iterative deepening? (04 Marks)

OR

- 8 a. Explain the different dependencies of Conceptual Dependency. (10 Marks)
- b. Write a note on Global Ontology. (06 Marks)

Module-5

- 9 a. Enlist and explain different components of natural language understanding process. (08 Marks)
- b. How can a program get better without the aid of a teacher? (08 Marks)

OR

- 10 a. Write a note on Analogy. (05 Marks)
- b. Which are the capabilities of expert systems? (04 Marks)
- c. Distinguish semantic and ease grammars. (07 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.