

Code: IT8T3A

**IV B.Tech - II Semester – Regular/Supplementary
Examinations – July 2021**

**ARTIFICIAL INTELLIGENCE
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) Describe the four categories under which AI is classified with.
- b) What is Heuristic Search?
- c) Why solution steps are ignored or undone?
- d) What are the problems encountered during hill climbing?
- e) State the mean end analysis procedure.
- f) How predicate logic is helpful in knowledge representation?
- g) Define the term matching with variables.
- h) List components of scripts.
- i) Define non-monotonic logic.
- j) Define Hierarchical planning.
- k) What are common pitfalls in planning an expert system?

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) State the different types of production systems, and also advantage and disadvantage of production system. 10 M
- b) Write the concept of planning with state space search with an example. 6 M
3. a) Discuss A* algorithm and the various observations about algorithm. 8 M
- b) Formulate the ways to overcome hill climbing problems. 8 M
4. a) Describe the Issues in knowledge representation. 6 M
- b) Explain unification algorithm used for reasoning under predicate logic with an example. 10 M
5. a) What are the concepts of semantic net in the knowledge representation? 6 M
- b) Explain the theory of conceptual dependency using suitable diagram. 10 M

6. a) Explain the tasks involved in building expert system. 8 M

b) Describe perception –vision with suitable example. 8 M