

Code: IT8T3A

**IV B.Tech - II Semester - Regular Examinations - March 2018**

**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) Represent Artificial Intelligence.
- b) Define production system.
- c) What is natural language processing in AI?
- d) What is heuristic search?
- e) List 2 disadvantages of best first search.
- f) List any 2 knowledge representation issues.
- g) Define Resolution.
- h) Define uncertainty.
- i) What is a semantic net?
- j) Represent Goal stack planning.
- k) Define Perception.

## PART – B

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

3 x 16 = 48 M

2.a) Discuss the tic-tac-toe problem in detail and explain how it can be solved using AI technique? 8 M

b) Give the advantages and disadvantages of AI production system. 8 M

3.a) Explain steepest-ascent hill climbing method. 8 M

b) Write A\* algorithm in detail and explain its functionality. 8 M

4. Assume the following facts:

- Steve only likes easy courses.
- Science courses are hard.
- All the courses in the basket wearing department are easy.
- BK 301 is a basket wearing course.

Use resolution to answer the question. “What course would Steve like?” 16 M

5.a) Discuss symbolic reasoning under uncertainty. 6 M

b) Construct a script for going to a Restaurant. 10 M

6.a) Describe the Goal stack planning & hierarchical planning. 10 M

b) Discuss the essential features of an expert system of medical domain. 6 M