

Code: 13A05707

B.Tech IV Year II Semester (R13) Advanced Supplementary Examinations July 2018

ARTIFICIAL INTELLIGENCE

(Electronics & Instrumentation Engineering)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What is resolution?
 - (b) List the applications of AI.
 - (c) Describe in brief about rule based expert system.
 - (d) What are the operations in fuzzy set?
 - (e) What for genetic algorithm is used?
 - (f) What is meant by multilayer ANN?
 - (g) Name two learning rules.
 - (h) Write syntax rules for propositional logic.
 - (i) Define Turing test.
 - (j) State Baye's rule.

PART – B
(Answer all five units, 5 X 10 = 50 Marks)**UNIT – I**

- 2 What are the basic components of AI problem solving methodology? Describe them in detail. Illustrate with an example.

OR

- 3 What is best first searching? Explain A* algorithm in detail.

UNIT – II

- 4 What are frames? Give a sample frame of a computer department of a college.

OR

- 5 Consider the following sentences:
- (i) John likes all kinds of food.
 - (ii) Apples are food.
 - (iii) Chicken is food.
 - (iv) Anything anyone eat and isn't killed by is food.
 - (v) Bill eats peanuts and is still alive.
 - (vi) Sue eats everything bill eats.
- (a) Translate these sentences into formulas in predicate logic.
 - (b) Convert the formulas into clause form.
 - (c) Prove that John likes peanuts using resolution

UNIT – III

- 6 With neat diagram, explain the justification based truth maintenance system.

OR

- 7 Define certainty factor. What are the components of certainty factor?

UNIT – IV

- 8 Describe the forward and backward reasoning strategies with examples.

OR

- 9 Define and explain "learning". Describe in detail, the range of activities covered by the concept "learning". Justify the statement-that "learning is the most important characteristics of intelligence".

UNIT – V

- 10 Discuss the properties of fuzzy sets.

OR

- 11 Explain briefly genetic programming concept.