



Code: 13A05707

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

**ARTIFICIAL INTELLIGENCE**

(Electronics &amp; Instrumentation Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

- What is resolution?
- List the applications of AI.
- Describe in brief about rule based expert system.
- What are the operations in fuzzy set?
- What for genetic algorithm is used?
- What is meant by multilayer ANN?
- Name two learning rules.
- Write syntax rules for propositional logic.
- Define Turing test.
- 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:

- John likes all kinds of food.
- Apples are food.
- Chicken is food.
- Anything anyone eat and isn't killed by is food.
- Bill eats peanuts and is still alive.
- Sue eats everything bill eats.

- Translate these sentences into formulas in predicate logic.
- Convert the formulas into clause form.
- 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.

