

Roll No.

Total Pages : 03

BT-3/D-22

43219

**INTRODUCTION TO ARTIFICIAL
INTELLIGENCE
PC-CS-AIDS-207A**

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Explain the holistic view of expert systems with the help of some real time examples. **8**
(b) Justify the basic usage of means-end analysis with the help of some practical examples. **7**
2. (a) Elaborate the concept of theorem proving and abstraction in artificial intelligence. **8**
(b) Differentiate between depth first search and breadth first search problem solving techniques. **7**

Unit II

3. (a) Why is predicate logic used ? Explain the process of unification and modus ponens. **8**

- (b) Compare and contrast between declarative and procedural knowledge representation. 7
- 4. (a) Why is Alpha Beta Cutoff method used ? Explain its significance in game playing. 8
- (b) Differentiate between forward chaining and backward chaining. 7

Unit III

- 5. (a) Compare and contrast between propositional versus first order logic. 8
- (b) Identify the relevance of first order logic, unification and lifting in knowledge engineering. 7
- 6. (a) Explain the usage, significance and real time characteristics of using fuzzy logic. 8
- (b) Compare and contrast between semantic and pragmatic processing in natural language processing. 7

Unit IV

- 7. (a) Define neural networks and genetic algorithms. Explain with some real time applications where genetic algorithms and neural networks can be used. Also, identify the main technical differences among these two. 8

- (b) Differentiate between inductive and ensemble learning. 7
8. (a) What are the various forms of learning ? Explain the concepts of explanation based learning methods and statistical learning methods with the help of some practical examples. 8
- (b) Explain the case study of MYCIN with the help of its functional block diagram. 7