

Roll No. ....

Total Pages : 03

**BCA/D-20**

**1204**

ARTIFICIAL INTELLIGENCE

BCA-353

Time : Three Hours]

[Maximum Marks : 80

**Note :** Attempt *Five* questions in all. Q. No. 1 is compulsory.  
In addition to compulsory question, student will have to attempt *four* more questions, selecting *one* question from each Unit. All questions carry equal marks.

**(Compulsory Question)**

1. (a) Discuss Turing Test 4
- (b) What are the advantages of Speech Recognition ? 4
- (c) What is Expert System ? Discuss. 4
- (d) Explain Best First Search. 4

**Unit I**

2. What is Artificial Intelligence ? Discuss methods of Problem representation in AI along with their characteristics. 16

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3. Discuss the historical evolution of AI. Also discuss the various application areas of AI. 16

### Unit II

4. Discuss the features of Expert System. Also discuss the various categories of Expert System. 16
5. (a) Explain the life-cycle of an Expert System. 8  
(b) Discuss the application areas of Expert Systems. 8

### Unit III

6. Explain Brute Force Search Techniques with suitable example. 16
7. Explain the following : 8  
(a) Mean End Analysis 8  
(b) Hill Climbing Algorithm. 8

### Unit IV

8. Explain need of natural language processing. What are the solutions of Natural Language Processing Problems ? Discuss. 16

9. (a) Explain the concept of a robot along with its major components. 8
- (b) Discuss the following :
- (i) Intelligent Robots
  - (ii) Mobile Robots. 8