

Total No. of Questions : 5] [Total No. of Printed Pages : 3

Roll No.

IT-833

B. E. (Eighth Semester) EXAMINATION, June, 2012

(Information Technology Engg. Branch)

ARTIFICIAL INTELLIGENCE

(Elective – III)

(IT – 833)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any two parts from each Unit. All questions carry equal marks.

Unit – I

1. (a) You are given 2 jugs, a 4 gallon jug and a 3 gallon one. Neither has any measuring markers on it. There is a pump that can be used to fill the jug with water. How can you get exactly 2 gallon of water in the 4 gallon jug ? Write the production rule for the above problem. 10
- (b) Explain the purpose of production system with examples. Also explain the various types of production system. 10
- (c) What is control strategy ? What are the characteristics of a good control strategy. 10

P. T. O.

Unit – II

2. (a) Solve 8 puzzle problem using best first search algorithm : 10

1		2		1	2	3
4	5	3	→	4	5	6
7	8	6		7	8	

- (b) What do you understand by the representation of knowledge ? Explain the various problems in representing knowledge. 10
- (c) Convert the following sentences to predicate logic : 10
- (i) All Romans were either loyal to Caesar or hated him.
 - (ii) Everyone is loyal to someone.
 - (iii) Marcus tried to assassinate Caesar.
 - (iv) Caesar was ruler.

Unit – III

3. (a) Explain declarative and procedural frames. 10
- (b) Discuss conceptual dependency and explain how information can be represented using conceptual dependency ? 10
- (c) Explain how Fuzzy logic is beneficial over classical probability theory ? 10

Unit – IV

4. (a) Explain the minimax strategy of game playing techniques with example. 10
- (b) Explain block world problem in robotics with example. 10

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- (c) What are the levels of knowledge used in language understanding ? Also write down the techniques used in NLP. 10

Unit-V

5. (a) Explain Expert system in detail and also write its pros and cons. 10
(b) Explain explanation based learning and learning from analogy with example. 10
(c) What is neural network ? Write its various applications. 10