Printed Pages : 4 | 1232 | ECS801

(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID : 110703 Roll No. | | | | | | | | | |

B.TECH.

(SEM. VII) THEORY EXAMINATION, 2015-16

ARTIFICIAL INTELLIGENCE

[Time:3 hours] **[Total Marks:100]**

SECTION-A

Note: All questions are ***compulsory.***

1 Attempt **all** parts . All parts carry equal marks. Write answer of all part in short . (2x10=20)

(a) Define support vector machine.

(b) Describe the role of computer vision.

(c) What do you mean by intelligent agent?

(d) Define informational equivalence and computational equivalence.

(e) Discuss the various types of model of parallel algorithm with example.

(f) Define Modus Ponen's rule in propositional logic?

(g) Define inductive learning. How the performance of inductive learning algorithms can be measured?

https://quescol.com | Free PYQs, Solutions, Syllabus, Notes etc

(h) State the factors that play a role in the design of a learning system.

(i) Describe how can we use artificial intelligence in Natural Language Processing?

(j) Describe the role of rational agent.

SECTION-B

Attempt **any five** questions from this section. (10x5=50)

2. (a) Describe AO* search technique.

   (b) What is intelligent agent? Describe basic kinds of agents programs.

3. (a) Distinguish between Markov Modle and Hidden Markov Model (HMM).

   (b) Draw diagram of HMM and show what is the hidden part of it that we refer to?

4. Translate following sentences in formulas in predicate logic and casual form:

   (a) Mutton is food.

   (b) Anything one eats and it does not kill is a food.

   (c) Rajiv eats everthing that Sue eats.

   (d) Kin eats peanuts and is still alive.

   (e) John will marry Mary if Mary loves John.

https://quescol.com | Free PYQs, Solutions, Syllabus, Notes etc

5 Solve the Crypt arithmetic problem

```
  SEND
 +MORE
------
 MONEY
------
```

6 Discuss the problem of water jug with heuristic search tecniques?

7 What are the desirable properties of good knowledge representation schemes?

8 Explain Bayesian network by taking an example. How is the Bayesian network powerful representation for uncertainity knowledge?

9 Explain about the Hill climbing algorithm with its drawback and how it can be overcome?

SECTION-C

Attempt **any two** questions from this section. (15x2=30)

10. (a) Write steps involved in making Principle Components to do a classification of given data.

(b) Determne 2 Principle components of the following set of observations of 2-dimensional data having 5 examples.

https://quescol.com | Free PYQs, Solutions, Syllabus, Notes etc

S.No.	X	Y
1	-1.3	-1.8
2	-0.6	-0.9
3	0	0
4	0.6	0.9
5	1.3	1.8

11. Explain Min-Max procedure. Describe alpha beta pruning and give the other modifications to the min max procedure to improve its performance.

12. Write a short notes on:

(a) EM Algorithm

(b) Support Vector Machine

(c) Backtracking

—x—

https://quescol.com | Free PYQs, Solutions, Syllabus, Notes etc