

Total No. of Questions : 8]

SEAT No. :

P3839

[Total No. of Pages : 2

[5870] - 1218

**T.E. (Honours) (Artificial Intelligence and Machine)**

**ARTIFICIAL INTELLIGENCE**

**(2015 Pattern) (Semester - II) (310303)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates :*

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.

**Q1) a)** Represent the following sentences into formulas in predicate logic. [9]

- i) John likes all kinds of food.
- ii) Apples are food.
- iii) Chicken are food.
- iv) Anything anyone eats and isn't killed by is food.
- v) Bill eats peanuts and is still alive.
- vi) Sue eats everything Bill eats.

b) Explain Bayesian inference using a suitable example. [8]

OR

**Q2) a)** Explain Unification algorithm with suitable example. [9]

b) Write a note on probability reasoning. [8]

**Q3) a)** Explain linear regression. Find linear regression equation for the following two sets of data : [6]

X	Y
2	3
4	7
6	5
8	10

**P.T.O.**

- b) Explain the architecture of Artificial Neural Network. [6]
- c) Explain how Support Vector Machines are used for classification with suitable example. [6]

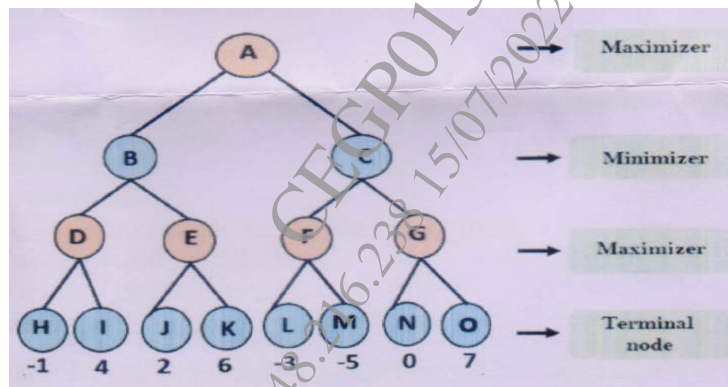
OR

- Q4)** a) Explain : [6]
- i) Supervised Learning.
  - ii) Unsupervised Learning.
- b) Explain how Decision Trees are used in Learning? [6]
  - c) What is Artificial Neural Network? Give two applications of artificial neural networks in detail. [6]

- Q5)** a) Illustrate Mini-Max search for the tic-tac-toe game. [9]
- b) Explain Alpha - Beta Pruning with an example. [8]

OR

- Q6)** a) Write a note on : [9]
- i) State-of-the-art Game Programs.
  - ii) Types of Games in AI.
- b) Solve the given game tree using min max algorithm. [8]



- Q7)** a) Explain general framework for computer vision applications. [9]
- b) Explain forward chaining and backward chaining for a simple example. [9]

OR

- Q8)** a) Explain how sentiment analysis using Natural Language Processing techniques. [9]
- b) What is NLP? Explain all five phases of NLP. [9]

