

Total No. of Questions : 8]

SEAT No. :

P-7777

[Total No. of Pages : 2

[6180]-325

**T.E. Honors (Computer Engineering)**  
**ARTIFICIAL INTELLIGENCE**  
**(2019 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) Explain various operators used in propositional logic for knowledge base building. [9]

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

OR

**Q2)** a) What is knowledge representation in propositional logic. Compare propositional logic and predicate logic. [9]

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

**Q3)** a) Explain [6]

- i) Supervised learning.
- ii) Unsupervised Learning.

b) 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

c) Explain how Support vector Machines are used for classification with suitable example. [6]

OR

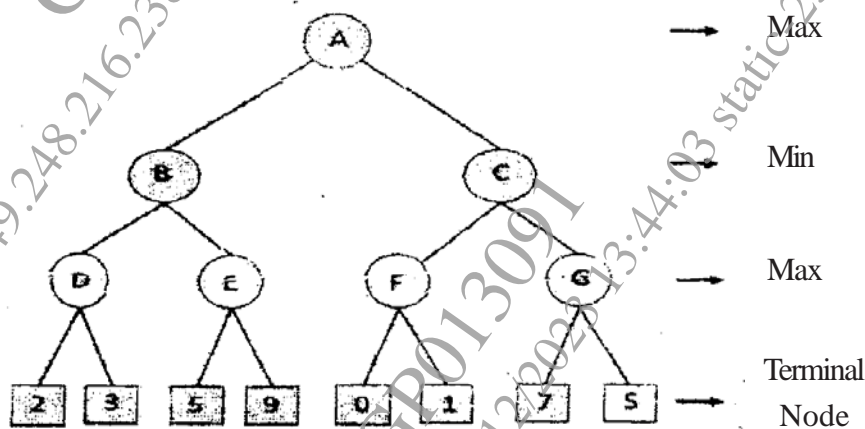
P.T.O.

- Q4)** a) With the help of an architecture diagram explain multilayer feed forward artificial neural network. [6]  
 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) Write a note on : [8]  
 i) Types of Games in AI  
 ii) State-of-the-art Game Programs

OR

- Q6)** a) Solve given two player search tree using Alpha-beta pruning. [9]



- b) Explain Alpha-Beta Pruning with an example. [8]

- Q7)** a) Explain how sentiment analysis is done using Natural Language Processing techniques. [9]  
 b) Represent the architecture of an expert system. label the various components in the diagram and explain. [9]

OR

- Q8)** a) Explain forward chaining and backward chaining for a simple example. [9]  
 b) Explain general framework for computer vision applications. [9]

