Total No. of Questions : 8]

SEAT No. :

PD4250

[Total No. of Pages : 2

[6403]-45

T.E. (Computer Engineering)

ARTIFICIAL INTELLIGENCE

(2019 Pattern) (Semester - VI) (310253)

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 side indicate full marks.*
4) *Assume Suitable data if necessary.*

Q1) a) Explain Alpha-Beta tree search and cut off procedure with example. [9]

b) Explain in details the concept of backtracking and constraint propagation to solve n-queens problem. [8]

OR

Q2) a) What is constraint satisfaction problem? Explain with example. [5]

b) Compare and contrast the stochastic games and partial observable games. [4]

c) How AI technique is used to solve tic-tac-toe problem. [8]

Q3) a) Explain Wumpus world environment with PEAS description. [9]

b) What is knowledge representation in propositional logic? Compare and contrast PL and FOL. [8]

OR

Q4) a) Explain different inference rules in FOL with suitable example. [9]

b) What is an agent? Explain knowledge based agent with architecture diagram, also state the significance of inference engine. [8]

Q5) a) Illustrate with an example the use of the unification algorithm to prove the concept of resolution. [9]

b) Define and explain the forward changing with example, analyze the differences between forward and backward changing. [9]

OR

P.T.O.

Q6) a) Describe Ontological Engineering w. r t. Categories, Objects and Model. **[9]**

b) Define First order Logic, Explain FOL inference for following classifiers. **[9]**

i) Universal Generalization

ii) Universal Instantiation

iii) Extential Instantiation

iv) Extential Introduction

Q7) a) Explain the algorithm for classical planning with an example. **[6]**

b) Analyze various planning approaches in AI. **[6]**

c) Explain the Hierarchical planning with relevant example. **[6]**

OR

Q8) a) Explain with example how planning is different than problem solving. **[6]**

b) Explain types of planning in details. **[6]**

c) Explain AI components and AI Architecture. **[6]**