Total No. of Questions : 8] **SEAT No. :**

PB-3793 **[Total No. of Pages : 2**

[6262]-52
T.E. (Artificial Intelligence & Data Science)
ARTIFICIAL INTELLIGENCE
(2019 Pattern) (Semester - I) (310253)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Answer four questions 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) ***Assume suitable data, if necessary.***

Q1) a) Explain min Max and Alpha Beta pruning algorithm for adversarial search with example **[9]**

b) Define and explain Constraints satisfaction problem. **[9]**

OR

Q2) a) Explain with example graph coloring problem. **[9]**

b) How Al technique is used to solve tic-tac-toe problem. **[9]**

Q3) a) Explain Wumpus world environment giving its PEAS description. **[9]**

b) Explain different inference rules in FOL with suitable example. **[8]**

OR

Q4) a) Write an propositional logic for the statement, **[10]**

i) "All birds fly"

ii) "Every man respect his parents"

b) Differentiate between propositional logic and First order logic. **[7]**

Q5) a) Explain Forward chaining algorithm with the help of example. **[9]**

b) Write and explain the steps of knowledge engineering process. **[9]**

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OR

Q6) a) Explain Backward chaining algorithm with the help of example. **[9]**

b) Write a short note on **[9]**

i) Resolution and

ii) Unification

Q7) a) Write a short note on planning agent, state goal and action representation **[6]**

b) Explain different components of planning system. **[6]**

c) Explain the components of AI. **[5]**

OR

Q8) a) What are the types of planning? Explain in detail. **[6]**

b) Explain Classical Planning and its advantages with Example. **[6]**

c) Write note On hierarchical task network planning. **[5]**

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