# T.E. (Artificial Intelligence \& Data Science) ARTIFICIADINTELLIGENCE (2019 Pattern) (Semester-I) (310253) 

## Time : $2^{1 ⁄ 2}$ Hours]

[Max. Marks : 70
Instructions to the camdidates:

1) Answer Q. 1 or Q.2. Q. 3 or Q.4, Q. 5 or Q.6, Q. 7 or Q.8.
2) Neat diograms nuust be drawn whenever necessary
3) Assume Suitable data if necessary.

Q1) a) Explain Min Max and Alpha Beta pruning algorithm for adversarial search
with example:
b) Define and explain Constraints satisfactign problem.

Q2) a) Explain with example grapbcoloring problem. [9]
b) How AI technique is used to solve tic-tac-toe problem.

Q3) a) Explain Wumpus world environment giving its PEAS description.
b) Explain different inference rules in FOL with suitable example.

Q4) a) Write an propositional logic for the statement,
i) "All birds fly"
(ii) "Every man respect his parents"
b) Differentiate between propositional logic and Firstorder logic.

Q5) a) Explain Forward chaining algorithm with the help of example. [9]
b) Write and explain the steps of knowledge engineering process.

Q6) a) Explain Backward chaining algorithmivith the help of example.
b) Write a short note on
i) Resolution and
ii) Unification

Q7) a) Write a short note omplanning agent, state goal and action representation.
b) Explain different components of planning system.
c) Expraind thecomponents of AI

Q8) a) What are the types of planning? Explain in detail.
b) Explain Classical Planning and its advantages with Example.
c) Write note on hierarchical task network planning.

