PA-1610

[5926]-242

T.E. (Artificial Intelligence and 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) *Figures to the right side indicate full Marks.*
3) *Assume suitable data, if necessary.*
4) *Neat diagrams must be drawn wherever necessary.*

Q1) a) What are the issues that need to be addressed for solving CSP efficiently? Explain the Solutions to them. **[9]**

    b) Explain heuristic function that can be used in cutting off search in detail. **[9]**

OR

Q2) a) Explain Alpha-Beta Tree search and cutoff procedure in detail with an example. **[9]**

    b) Define constraints in CSPs. Explain any two types of Constrains in detail. **[5]**

    c) What are the limitations of Game search algorithms? **[4]**

Q3) a) What are the various approaches to knowledge representation? Explain in detail. **[9]**

    b) Detail the algorithm for deciding entailment in proposition logic. **[8]**

OR

Q4) a) Differentiate propositional logic with First order logic. List the Inference rules along with suitable examples for first order logic. **[8]**

    b) Explain Knowledge representation structures and compare them. **[9]**

Q5) a) Explain Unification algorithm with suitable example. **[9]**

b) What is knowledge engineering? Explain ontology of situation calculus. **[9]**

OR

Q6) a) Explain the forward chaining process and efficient forward chaining with example. State its usage. **[8]**

b) What are the reasoning patterns in Propositional logic? Explain them in detail. **[7]**

c) Write a note on: categories and objects. **[3]**

Q7) a) Explain time, schedules and resources in temporal domain with an example. **[9]**

b) Discuss AI and its ethical concerns. Explain Limitations of AI. **[8]**

OR

Q8) a) Analyze various planning approaches in detail. **[9]**

b) Explain AI Architecture with a suitable diagram. **[8]**

⌘⌘⌘