Total No. of Questions : 8]

SEAT No. :

P814

[Total No. of Pages : 2

[5870] - 1135
T.E. (Computer Engineering)
ARTIFICIAL INTELLIGENCE
(2019 Pattern) (Semester - II) (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 whenever necessary.***
3) ***Assume suitable data if necessary.***

Q1) a) Explain Alpha - Beta Tree search and cutoff procedure in deatil with example. **[9]**

b) What are the issues that need to be addressed for solving esp efficiently? Explain the solutions to them. **[9]**

OR

Q2) a) Explain in detail the concepts of back tracking and constraint propagation and solve the N-queen problem using these algorithms. **[9]**

b) Write a short note on Monte Carlo Tree search and list its limitations. **[5]**

c) Apply constraint satisfaction method to solve following Problem

SEND + MORE = MONEY. (TWO + TWO = FOUR, CROSS+ ROADS= DANGER) **[4]**

Q3) a) List the inference rules used in prepositional logic? Explain them in detail with suitable example. **[9]**

b) Explain syntax and semantics of First Order Logic in detail. **[8]**

OR

Q4) a) Detail the algorithm for deciding entailment in prepositional logic. **[8]**

b) Explain knowledge representation structure and compare them. **[9]**

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Q5) a) Explain Forward and Backward chaining. What factors justify whether reasoning is tobe done in forward or backward chaining. **[9]**

b) What are the reasoning patterns in propositional logic? Explain them in detail. **[9]**

OR

Q6) a) Explain unification algorithm with an example. **[8]**

b) Explain knowledge representation structures and compare them. **[7]**

c) What do you mean by Ontology of situation calculus? **[3]**

Q7) a) Analyse various planning approaches in detail. **[9]**

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

OR

Q8) a) Explain the terms for time and schedule from perspective of temporal planning. **[9]**

b) Write a detailed note on AI Architecture. **[8]**