R09

Code No: D0610

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech II - Semester Examinations, March/April 2011
ARTIFICIAL INTELLIGENCE
(DIGITAL SYSTEMS AND COMPUTER ELECTRONICS)

Time: 3hours **Max. Marks: 60**

Answer any five questions
All questions carry equal marks
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1.a) Explain about the concept of rationality.
b) Discuss about the generation of admissible heuristics from relaxed problems. [12]

2. Explain the structure of agents. [12]

3. a) Explain the working of hill-climbing search.
b) Explain the working of genetic algorithms. [12]

4. Explain the working of minimax algorithm and alpha-beta pruning. [12]

5. a) Explain about intelligent backtracking.
b) Explain about regression relevant states search. [12]

6. Consider the following knowledge base

$$\forall x : \forall y : cat(x) \wedge fish(y) \rightarrow likes - to - eat(x, y)$$
$$\forall x : calico(x) \rightarrow cat(x)$$
$$\forall x : tuna(x) \rightarrow fish(x)$$
$$tuna(charlie)$$
$$tuna(herb)$$
$$calico(puss)$$

a) Convert these formulae into horn clauses.
b) Using backward chaining answer the question “What does puss like to eat”? [12]

7. Explain in detail about maximum likelihood parameter learning. [12]

8. Write short notes on:
a) Wumpus World
b) Unification algorithm
c) Constraint satisfaction problem [12]

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