

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]
