

(10)

B.E/ B.Tech (Arrear) Degree End Semester Examinations Nov/ Dec 2012
Information Science and Technology
VI Semester
IT 9023– Artificial Intelligence
(Regulations 2008)

Time: 3 hr

Max Mark: 100

Part A (10 X 2 = 20)

1. Give PEAS formulation for a vacuum world
2. Differentiate uniformed search and uninformed search
3. Where will you use CSP?
4. Convert the sentence "All people are kind and intelligent, but some are not that good" in predicate logic
5. State the differences between taxonomy and ontology
6. What is the advantage of using a decision tree?
7. List a few areas where neural network is used.
8. Differentiate supervised and unsupervised learning
9. Explain reinforcement learning with an example
10. What is verb subcategorization?

Part-B (5 X 16 = 80)

11. a) Explain the different types of an agent (8).
b) Explain the different properties of an environment (8).
12. a) i) With an example, explain any algorithm of uninformed search (10)
ii) Why are heuristics used in search. Explain with an example (6)
(or)
b) i) With an example explain the hill climbing algorithm (8)
ii) Explain alpha-beta pruning with an example (8)
13. a) i) Explain forward chaining and backward chaining algorithms with an example (8)
ii) How are actions, situations and events handled in the knowledge of an agent (8)
(or)
b) i) Consider the following axioms and prove by resolution (8)
Every child loves every candy
Anyone who loves some candy is not a nutrition fanatic
Anyone who eats any pumpkin is a nutrition fanatic
Anyone who buys any pumpkin either carves it or eats it
John buys a pumpkin
Lifesavers is a candy
(Conclusion) If John is a child, then John carves some pumpkin
ii) Explain non monotonic logic with an example. (8)
14. a) i) Name any two instance based methods of learning. Explain the learning process in neural network that has four inputs and a single neuron. (8)
ii) Explain the different logical forms of learning with an example (8)
(or)
b) With an example, explain how decision tree helps in learning. (16)
15. a) i) Explain the various speech acts in english language. (8)
ii) For the sentence "The wumpus is dead because the agent shot it", give the bottomup and topdown parse tree. (8)

(or)

- b) i) How does an agent communicate with other agent. Detail the procedure. (8)
- ii) Explain verb subcategorization with an example. (8)