

Dr. Shyama Prasad Mukherjee University, Ranchi
Master of Information Technology, Semester - III

Model Questions

Subject : Artificial Intelligence

FM: 70

Paper : ECMIT303

Group- A

1. General algorithm applied on game tree for making decision of win/lose is _____
 - a. DFS/BFS Search Algorithms
 - b. Heuristic Search Algorithms
 - c. Greedy Search Algorithms
 - d. MIN/MAX Algorithms

2. What is the general term of Blind searching?
 - a) Informed Search
 - b) Uninformed Search
 - c) Informed & Unformed Search
 - d) Heuristic Search

3. What is the frame?
 - a) A way of representing knowledge
 - b) Data Structure
 - c) Data Type
 - d) None of the mentioned

4. Which is not a property of representation of knowledge?
 - a) Representational Verification
 - b) Representational Adequacy
 - c) Inferential Adequacy
 - d) Inferential Efficiency

5. Which data structure conveniently used to implement BFS?
 - a) Stacks
 - b) Queues

- c) Priority Queues
 - d) All of the mentioned
6. What is the other name of informed search strategy?
- a) Simple search
 - b) Heuristic search
 - c) Online search
 - d) None of the mentioned
7. A* algorithm is based on _____
- a) Breadth-First-Search
 - b) Depth-First –Search
 - c) Best-First-Search
 - d) Hill climbing
8. _____ are mathematical problems defined as a set of objects whose state must satisfy a number of constraints or limitations.
- a) Constraints Satisfaction Problems
 - b) Uninformed Search Problems
 - c) Local Search Problems
 - d) All of the mentioned
9. Which of the following, is a component of an expert system?
- a) inference engine
 - b) knowledge base
 - c) user interface
 - d) all of the mentioned
10. Which is true for neural networks?
- a) It has set of nodes and connections
 - b) Each node computes it's weighted input
 - c) Node could be in excited state or non-excited state
 - d) All of the mentioned
11. A perceptron is a _____
- a) Feed-forward neural network
 - b) Backpropagation algorithm
 - c) Backtracking algorithm
 - d) Feed Forward-backward algorithm

12. Which of the following is true related to 'Satisfiable' property?
- a) A statement is satisfiable if there is some interpretation for which it is false
 - b) A statement is satisfiable if there is some interpretation for which it is true
 - c) A statement is satisfiable if there is no interpretation for which it is true
 - d) A statement is satisfiable if there is no interpretation for which it is false
13. Two literals are complementary if _____
- a) They are equal
 - b) They are identical and of equal sign
 - c) They are identical but of opposite sign
 - d) They are unequal but of equal sign
14. Knowledge and reasoning also play a crucial role in dealing with _____ environment.
- a) Completely Observable
 - b) Partially Observable
 - c) Neither Completely nor Partially Observable
 - d) Only Completely and Partially Observable
15. Lifted inference rules require finding substitutions that make different logical expressions look identical.
- a) Existential Instantiation
 - b) Universal Instantiation
 - c) Unification
 - d) Modus Ponens

Group-B

Direction: Answer any four

4*5=20

1. Solve block world problem using hill climbing.
2. Explain Best first search algorithm.
3. Explain minmax search with suitable example.
4. Explain Water Jug problem.
5. What is resolution? Explain different types of resolution.
6. What do you mean by FRAME?
7. What is Neural network? Explain its type.

8. Explain Rule based system.
9. Explain AO* algorithm.
10. Write notes on (any two):
 - a. Back propagation algorithm
 - b. Simulated annealing
 - c. MYCIN

Group-C

Direction: Answer any Two

15*2=30

1. What is Artificial Intelligence? Explain its application areas.
2. What is Fuzzy Logic? How it is different from crisp set? Explain different properties and operations of fuzzy set by taking suitable example
3. What is genetic algorithm? Explain its operators
4. What is Expert System? Explain its component. Briefly explain knowledge acquisition.
5. a) What is blind search? Explain BFS with help of an example.
b) Differentiate between DFS and BFS.