Dr. Shyama Prasad Mukherjee University, Ranchi

Master of Computer Applications, Semester - V

Model Questions

Subject : Artificial Intelligence **FM: 75**

Paper : IT- 51

Group- A

1. Who is known as the Father of AI"?

a. Fisher Ada

b. Alan Turing

c. John McCarthy

d. Allen Newell

2. The application/applications of Artificial Intelligence is/are

a. Expert Systems

b. Gaming

c. Vision Systems

d. All of the above

3. A technique that was developed to determine whether a machine could or could not demonstrate the artificial intelligence known as the___

a. Boolean Algebra

b. Turing Test

c. Logarithm

d. Algorithm

4. Among the given options, which is not the required property of Knowledge representation?

a. Inferential Efficiency

b. Inferential Adequacy

c. Representational Verification

d. Representational Adequacy

5. The search algorithm which is similar to the minimax search, but removes the branches that don't affect the final output is known as__.

a. Depth-first search

b. Breadth-first search

c. Alpha-beta pruning

d. None of the above

6. Which process makes two different Logical expressions look identical?

a. Unification

b. Lifting

c. Inference Process

d. None of the above

7. The inference engine works on _____.

a. Forward Chaining

b. Backward Chaining

c. Both a and b

d. None of the above

8. Hill-Climbing approach stuck for which of the following reasons?

a. Local maxima

b. Ridges

c. Plateau

d. All of the mentioned

9. What are the two main features of Genetic Algorithm?

a. Fitness function & Crossover techniques

b. Crossover techniques & Random mutation

c. Individuals among the population & Random mutation

d. Random mutation & Fitness function

10. Which of the following is true with respect to uncertainty in AI systems?

a. Uncertainty arises when we are not 100 percent confident in our decisions

b. Whenever uncertainty arises, there is needs to be an estimation taken for getting to any conclusion

c. The AI agent should take certain decisions even in the situations of uncertainty

d. All of the above

11. Which of the following types does the Cryptarithmetic problem belong to?

a. Encryption Problem

b. Constraint Satisfactory Problem

c. Number problem

d. All of the above

12. What does a first order predicate logic contain?

a. Predicate and a subject

b. Predicate and a Preposition

c. Subject and an object

d. None of the above

13. _____ is/are the well known Expert System/s for medical diagnosis systems.

a. MYCIN

b. CADUCEUS

c. DENDRAL

d. XCON

14. What is perceptron?

a. a single layer feed-forward neural network with pre-processing

b. an auto-associative neural network

c. a double layer auto-associative neural network

d. a neural network that contains feedback

15. The room temperature is hot. Here the hot (use of linguistic variable is used) can be represented by _____

a. Fuzzy Set

b. Crisp Set

c. Fuzzy & Crisp Set

d. None of the mentioned

Group-B

Direction: Answer any five **5*5=25**

1. Solve tic-tac-toe using any AI technique.
2. What do you mean by production system?
3. Explain Water Jug problem.
4. What is unification? Explain with an example.
5. What is resolution? Explain different types of resolution.
6. What is blind search? Explain DFS by taking suitable example.
7. What is Neural network? Explain its type.
8. What do you mean by expert System?
9. Explain Rule based system.
10. Write notes on (any two):
    a. Knowledge acquisition
    b. Genetic algorithm
    c. Semantic network

Group-C

Direction: Answer any Two **15*2=30**

1. What is artificial intelligence? What are the scopes of AI? Explain briefly.
2. Explain Monkey and Banana problem.
3. Explain Alpha beta pruning with help of an example.
4. Explain Hill climbing algorithm. Discuss its drawback with solution.
5. What is Fuzzy Logic? Explain different properties and operations of fuzzy set by taking suitable example