

## Unit 1.

Q.1 Explain PAES representation with example .

Q.2 Define agent and give classification of agents.

Q.3 What is intelligent agent.

Q.4 Write a short note on: Rational Agent.

Q.5 Write a short note on : Structure of intelligent agents.

Q.6 Give types of agents.

Q.7 What are various agent environments? Give PEAS representation for an agent

Q.8 Define in your own words .The following terms

a. Agent

b. Agent function

c. Agent program

d. Autonomy.

Q.9 Explain various types of intelligent agents, state information of each and how it is overcome in other type of agent.

Q.10 What do you mean by PEAS? Explain properties of task environment.

Q.11 Explain detail architecture of goal based agent.

Q.12 Explain simple reflex agent architecture

Q.13 Explain learning agent architecture

Q.14 Define artificial intelligence

Q.15 Write a short note :Application of artificial intelligence.

Q.16 Explain the various artificial intelligence problem

Q.17 Explain various techniques for solving problems by searching

Q.18 What are the components of AI.

## UNIT 2

Q.1 Differentiate between BFS and DFS.

Q.2 How the drawbacks of DFS are overcome by DLS and IDDFS

Q.3 Compare and contrast all the un-informed searching techniques.

Q.4 Write short note on bidirectional search

Q.5 Write a note on Uniform cost search.

Q.6 Compare and contrast DFS, DLS and IDDFS.

- Q.7 What are various informed search technique.? Explain A\* with example.
- Q.8 Compare Best First search and A\* with an example
- Q.9 Write algorithm of steepest ascent hill climbing. And compare it with simple hill climbing .
- Q.10 Write are the limitation of hill climbing ? How can we solve them?
- Q.11 What algorithm for Best first search specify its properties.
- Q.12 What is the difference between best first and greedy best first search? Explain with example.
- Q.13 What is heuristic function ? What are the qualities of good heuristic?
- Q.14 Write a short note on stimulated annealing and local beam search.
- Q.15 Compare and contrast stimulated annealing with hill climbing.
- Q.16 How the definition of heuristic affects the search process? Explain with suitable example.
- Q.17 Write a short note on behavior of A\* in case of underestimating and overestimating heuristic.
- Q.18 Discuss admissibility of A\* in case of optimality.
- Q.19 Write a short note IDA\*
- Q.20 Explain SMA\* algorithm with example. When should we SMA\* given options?
- Q.21 Compare and contrast A\*, SMA\* and IDA\*
- Q.22 What is adversarial search.

### UNIT 3

Q.1 Write a note on :

- (a) Game Types.
- (b) Zero-sum game
- (c) Relevant aspects of games.
- (d) Features of AI game.

- Q.2 Explain minimax algorithm with an example and give its properties.
- Q.3 Give alpha beta pruning algorithm with an example and its properties.
- Q.4 Draw game tree of tic-tac-toe problem.

### Unit 4

- Q.1 What is first order logic.
- Q.2 Write syntax and semantics of FOL with example.
- Q.3 Differentiate between propositional logic and predicate logic .

Q.4 Compare forward and backward reasoning with suitable example.

Q.5 Write a short note on knowledge engineering in FOL

Q.6 What is unification?

Q.7 Write a short note on : Resolution.

Q.8 Explain steps to convert logical statements to clausal form.

Q.9 Write steps of knowledge engineering process.

#### UNIT 5

Q.1 What is knowledge based agent?

Q.2 Write a note on : Wumpus World environment.

Q.3 What is logic? Explain propositional logic and first order predicate logic.

Q.4 short note on : Forward and backward chaining.

Q.5 Which programming language are used in AI. Explain PROLOG in detail.

Q.6 Implementing user defined string function.

Q.7 Implementing user defined string function.

Q.8 Implementing family tree.