Chettinad College of Engineering & Technology
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Department of Computer Science and Engineering

CS8691 - Artificial Intelligence – (6th semester, 2017 Regulation)

MCQ Bank

Unit I – Introduction

1. What is Artificial intelligence?

a) Putting your intelligence into Computer

b) Programming with your own intelligence

c) Making a Machine intelligent

d) Playing a Game

Answer: c

Explanation: Because AI is to make things work automatically through machine without using human effort. Machine will give the result with just giving input from human. That means the system or machine will act as per the requirement.

2. Which instruments are used for perceiving and acting upon the environment?

a) Sensors and Actuators

b) Sensors

c) Perceiver

d) None of the mentioned

Answer: a

Explanation: An agent is anything that can be viewed as perceiving and acting upon the environment through the sensors and actuators.

3. How many types of agents are there in artificial intelligence?

a) 1

b) 2

c) 3

d) 4

Answer: d

Explanation: The four types of agents are Simple reflex, Model based, Goal based and Utility based agents.

4. The action of the Simple reflex agent completely depends upon _____

a) Perception history

b) Current perception

c) Learning theory

d) Utility functions

Answer: b

Explanation: These agents select actions based on the current perception, ignoring the rest of the perception history.

5. What is meant by agent's percept sequence?

a) Used to perceive the environment

b) Complete history of actuator

c) Complete history of perceived things

d) None of the mentioned

Answer: c

Explanation: An agent's percept sequence is the complete history of everything that the agent has ever perceived.

6. What is the rule of simple reflex agent?

a) Simple-action rule

b) Condition-action rule

c) Simple & Condition-action rule

d) None of the mentioned

Answer: b

Explanation: Simple reflex agent is based on the present condition and so it is condition action rule.

7. What are the compositions for agents in artificial intelligence?

a) Program

b) Architecture

c) Both Program & Architecture

d) None of the mentioned

Answer: c

Explanation: An agent program will implement function mapping percepts to actions.

8. In which agent does the problem generator is present?

a) Learning agent

b) Observing agent

c) Reflex agent

d) None of the mentioned

Answer: a

Explanation: Problem generator will give the suggestion to improve the output for learning agent.

9. Which is used to improve the agents performance?

a) Perceiving

b) Learning

c) Observing

d) None of the mentioned

Answer: b

Explanation: An agent can improve its performance by storing its previous actions.

10. Which agent deals with happy and unhappy states?

a) Simple reflex agent

b) Model based agent

c) Learning agent

d) Utility based agent

Answer: d

Explanation: A utility function maps a state onto a real number which describes the associated degree of happiness.

11. Which is not the commonly used programming language for AI?

a) PROLOG

b) Java

c) LISP

d) Perl

Answer: d

Explanation: Because Perl is used as a script language, and not of much use for AI practice. All others are used to generate an artificial program.

12. Artificial Intelligence has its expansion in the following application.

a) Planning and Scheduling

b) Game Playing

c) Diagnosis

d) All of the mentioned

Answer: d

Explanation: All sectors require intelligence and automation for its working.

13. What is an 'agent'?

a) Perceives its environment through sensors and acting upon that environment through actuators

b) Takes input from the surroundings and uses its intelligence and performs the desired operations

c) A embedded program controlling line following robot

d) All of the mentioned

Answer: d

Explanation: An agent is anything that can be viewed as perceiving and acting upon the environment through the sensors and actuators. Mean it takes input from its environment through sensors, performs operation and gives output through actuators.

14. The Task Environment of an agent consists of _____

a) Sensors

b) Actuators

c) Performance Measures

d) All of the mentioned

Answer: d

Explanation: The task environment of an agent is described by four parts performance measures, sensors, actuators and environment, generally known as the PEAS descriptions.

15. Categorize Crossword puzzle in Fully Observable / Partially Observable.

a) Fully Observable

b) Partially Observable

c) All of the mentioned

d) None of the mentioned

Answer: a

Explanation: In crossword puzzle an agent knows the complete state of the environment through its sensors.

16. The game of Poker is a single agent.

a) True

b) False

Answer: b

Explanation: The game of poker involves multiple player, hence its works in Multi-agent environment.

17. Satellite Image Analysis System is (Choose the one that is not applicable).

a) Episodic

b) Semi-Static

c) Single agent

d) Partially Observable

Answer: d

Explanation: System knows the current status of the analysis thought its inputs.

18. Which of the following algorithm is online search algorithm?

a) Breadth-first search algorithm

b) Depth-first search algorithm

c) Hill-climbing search algorithm

d) None of the mentioned

Answer: c

Explanation: Hill-climbing search algorithm will have only current state in memory, So it is an online search algorithm.

19. Which search algorithm will use limited amount of memory?

a) RBFS

b) SMA*

c) Hill-climbing search algorithm

d) Both RBFS & SMA*

Answer: d

Explanation: RBFE and SMA* will solve any kind of problem that A* can't by using limited amount of memory.

20. How the new states are generated in genetic algorithm?

a) Composition

b) Mutation

c) Cross-over

d) Both Mutation & Cross-over

Answer: d

Explanation: New states are generated by mutation and by crossover, which combines a pair of states from the population.

21. Which method is effective for escaping from local minima?

a) Updating heuristic estimate

b) Reducing heuristic estimate

c) Eliminating heuristic estimate

d) None of the mentioned

Answer: a

Explanation: Updating heuristic estimates from experience provides an effective method to escape from local minima.

22. What is the expansion if PEAS in task environment?

a) Peer, Environment, Actuators, Sense

b) Perceiving, Environment, Actuators, Sensors

c) Performance, Environment, Actuators, Sensors

d) None of the mentioned

Answer: c

Explanation: Task environment will contain PEAS which is used to perform the action independently.

23. What kind of environment is crossword puzzle?

a) Static

b) Dynamic

c) Semi Dynamic

d) None of the mentioned

Answer: a

Explanation: As the problem in crossword puzzle are posed at beginning itself, So it is static.

24. Which environment is called as semi dynamic?

a) Environment does not change with the passage of time

b) Agent performance changes

c) Environment will be changed

d) Environment does not change with the passage of time, but Agent performance changes

Answer: d

Explanation: If the environment does not change with the passage of time, but the agent performance changes by time.

25. Who is known as the -Father of AI"?

a). Fisher Ada

b). Alan Turing

c). John McCarthy

d). Allen Newell

Answer: c. John McCarthy

Explanation: John McCarthy was a pioneer in the AI field and known as the father of Artificial intelligence. He was not only the known as the father of AI but also invented the term Artificial Intelligence.

26. An AI agent perceives and acts upon the environment using___.

a). Sensors

b).Perceiver

c). Actuators

d). Both a and c

Answer: d. Both a and c.

Explanation: An AI agent perceives and acts upon the environment using Sensors and Actuators. With Sensors, it senses the surrounding, and with Actuators, it acts on it.

27. Which rule is applied for the Simple reflex agent?

a).Simple-action rule

b).Simple &Condition-action rule

c).Condition-action rule

d).None of the above

Answer: c. Condition-action rule

Explanation: The simple reflex agent takes decisions only on the current condition and acts accordingly; it ignores the rest of history; hence it follows the Condition-action rule.

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

a).Expert Systems

b).Gaming

c).Vision Systems

d).All of the above

Answer: d. All of the above

Explanation: All the given options are the applications of AI.

29. Which search algorithm requires less memory?

a).Optimal Search

b).Depth First Search

c).Breadth-First Search

d).Linear Search

Answer: b. Depth First Search

Explanation: The Depth Search Algorithm or DFS requires very little memory as it only stores the stack of nodes from the root node to the current node.

30. Which search method takes less memory?

a) Depth-First Search

b) Breadth-First search

c) Optimal search

d) Linear Search

Answer: a

Explanation: Depth-First Search takes less memory since only the nodes on the current path are stored, but in Breadth First Search, all of the tree that has generated must be stored.