Artificial Intelligence Objectives

ICT 7th Sem

by

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Set-1

1. Artificial Intelligence is about ____.
   a) Playing a game on Computer
   b) Making a Machine Intelligent
   c) Programming on Machine with your Own Intelligence
   d) Putting your intelligence in Machine

2. Who is known as the - Father of AI?
   a) Fisher Ada
   b) Alan Turing
   c) John McCarthy
   d) Allen Newell

3. Select the most appropriate situation for that a blind search can be used.
   a) Real-life situation
   b) Small Search Space
   c) Complex game
   d) All of the above

4. The application/applications of AI is/are ____.
   a) Expert Systems
   b) Gaming
   c) Vision Systems
   d) All of the above

5. Among the given options, which search algorithm requires less memory?
   a) Optimal Search
   b) Depth First Search
   c) Breadth-First Search
   d) Linear Search

6. If a robot is able to change its own ~~pathway~~ trajectory as per the external conditions, then the robot is Considered as the—
a) Mobile b) Non-Servo
c) Open Loop d) Intelligent

7. Which of the given language is not commonly used for AI?
a) LISP b) PROLOG
c) Python d) Perl

8. 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

9. The Component of an Expert System is —
a) Knowledge Base b) Inference Engine
c) User Interface d) All of the above

10. Which algorithm is used in the Game ~~f~~ tree to make decisions of Win/Lose?
a) Heuristic Search Algorithm ~~b) DFS Algorithm~~
b) DFS/BFS algorithm
c) Greedy Search Algorithm
d) Min/Max algorithm

11. The available ways to solve a problem of state-space-search.
a) 1 b) 2 c) 3 d) 4

12. 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

13. An AI agent perceives and acts upon the environment using ___.
a) Sensors b) Perceiver
c) Actuator d) Both a and c

14. 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

15. Which agent deals with the happy and unhappy state?
a) Utility-based agent b) Model-based agent
c) Goal-based agent d) Learning agent

16 Rational agent always does the right things. True/False
→ True

17. Which term describes the common-sense of the judgemental part of problem-solving?
a) Values-based b) Critical
c) Analytical d) Heuristic

18. Which AI technique enables the computer to understand the associations and relationships between objects and events?
a) Heuristic Processing b) Cognitive Science
c) Relative Symbolism d) Pattern Matching

19. The exploration problem is where ___.
a) Agent Contains the knowledge of state and actions
b) Agent does not contain the knowledge of state and actions
c) Only actions are known to the agent
d) None of the above

20. In the Wumpus Word Problem, the reason for the uncertainty is that the agent's sensor gives only ___.
a) Full & Global information
b) Partial & Global information
c) Full & Local information
d) Partial & Local information

21. 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

22. The maximum depth to which the alpha-beta pruning can be applied.
a) Eight states b) Six states
c) Ten states d) Any depth

23. Among the given options, which is also known as inference rules
a) Reference b) Reform
c) Resolution d) None of the above

24. Which of the following option is used to build complex sentences in knowledge representation?
a) Symbols b) Connectives
c) Quantifier d) None of the above

25. Automatic reasoning tool is used in ——.
a) Personal Computers b) Microcomputers
c) Lisp Machines d) All of the above

26. If according to the hypothesis, the result should be positive, but in fact it is negative, then it is known as ——.
a) False Negative Hypothesis b) False positive hypothesis
c) Specialized Hypothesis d) Consistent Hypothesis

27. A hybrid Bayesian Network Concist ——.
a) Discrete Variable Only b) Discontinuous Variable
c) Both discret & Continuous d) Continuous variables only

28. The process of capturing the inference process as single Inference Rule is known as:
a) Clause b) Ponens
c) Generalized Modus Ponens d) Variables

29. Which process makes two different Logical expressions look identical?
a) Unification b) Lifting
c) Inference Process d) None of the above

30. Which algorithm takes two sentences as input and returns a Unifier?
a) Inference b) Hill-Climbing
c) Unify algorithm d) Depth-First-Search

31. The PEAS in the task environment is about —.
a) Peer, Environment, Actuators, Sense
b) Performance, Environment, Actuators, Sensors
c) Perceiving, Environment, Actuator, Sensors
d) None of the above

32. In State-space the set of actions for a given problem is expressed by the —.
a) Intermediate States
b) Successor function that takes current action and returns next state
c) Initial States
d) None of the above

33. In which search problem, to find the shortest path, each city must be visited ~~only~~ once only?
a) Map Coloring Problem
b) Depth-first search traversal on a given map represented as a graph
c) Finding the shortest path between a source and a destination
d) Travelling Salesman Problem

34. In TSP problem of n cities, the time for traversing all cities without having prior knowledge of the length of the minimum tour will be? —.
a) $O(n)$ b) $O(n^2)$
c) $O(n!)$ d) $O(n/2)$

35. Web Crawler is an example of ___.
a) Intelligent Agent b) Problem-Solving Agent
c) Simple Reflex Agent d) Model-based Agent

36. The main function of problem-solving agent is to ___.
a) Solve the given problem and reach the goal
b) Find out which sequence of action will get it to the goal state
c) Both a & b
d) None of the above

37. In artificial intelligence, knowledge can be represented as ___.
i. Predicate Logic ii) Propositional Logic
iii. Compound Logic iv. Machine Logic
a) Both i & ii b) Only ii
c) Both ii & iii d) Only iv

38. For Propositional Logic, which statement is false?
a) The Sentence of Propositional logic can have answers other than True or false
b) Each sentence is a declarative sentence
c) Propositional logic is a knowledge representation technique in AI
d) None of the above

39. First order Logic Statements Contains ___.
a) Predicate & Preposition b) Subject and an Object
c) Predicate and Subject d) None of the above

40. A knowledge-based agent can be defined with ___ levels.
a) 2 Levels b) 3 levels
c) 4 Levels d) None of the above

41. Ways to achieve AI in real-life are ____.
a) Machine learning b) Deep learning
c) Both a & b d) None of the above

42. The main tasks of an AI agent are ____.
a) Input & output
b) Moment and humanly actions
c) Perceiving, thinking and acting on the environment
d) None of the above

43. The probabilistic reasoning depends upon ____.
a) Estimation b) Observations
c) Likelihood d) All of the above

44. The inference engine works on ____.
a) Forward Chaining b) Backward Chaining
c) Both a and b d) None of the above

45. Which of the following is true for Conditional probability?
a) Conditional probability gives 100% accurate results.
b) Conditional probability can be applied to a single event
c) Conditional Probability has no effect or relevance on independent events
d) None of the above

46. After applying Conditional probability to a given problem, we get ____.
a) 100% accurate result b) Estimated Values
c) Wrong Values d) None of the above

47. The best AI agent is one which ——.
a) Needs user inputs for solving any problem
b) Can solve a problem on its own without any human intervention
c) Need a similar exemplary problem in its knowledge base
d) All of the above

48. The Bayesian network gives ——
a) A Complete description of the problem
b) Partial Description of the domain
c) A Complete description of the domain
d) None of the above

49. In LISP, the addition of 5+8 is entered as ——.
a) 5+8 b) 5 add 8
c) 5+8= d) (+5 8)

50. An algorithm is said as Complete algorithm if ——.
a) It ends with a solution (if any exists).
b) It begins with a solution
c) It does not end with a solution
d) It contains a loop

51. Which statement is valid for the Heuristic function?
a) The Heuristic function is used to solve mathematical problems
b) The Heuristic function takes parameter of type string and returns an integer value
c) The Heuristic function does not have any return type
d) The Heuristic function calculates the cost of an optimal path between the pair of states

52. Which of the given element improve the performance of AI agent so that it can make better decisions?
a) Changing Element b) Performance Element
c) Learning Element d) None of the above

53. How many types of Machine Learning are there?
a) 1 b) 2 c) 3 d) 4

54. The decision tree algorithm reaches its destination using —
a) Single Test b) Two Test
c) Sequence of Test d) No Test

55. In LISP programming, the square root is entered as —
a) Sqrt(x) b) (sqrt x)
c) x|2 d) none of the above

Set -2

1. Where was the conference that launched the AI revolution in 1956?
→ Dartmouth

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

3. Which function will select lowest ~~fon~~ expansion node at first for evaluation?
→ Best-first-search

4. Which is correct for FOPL quantifier to "Every man respects his parent statement?
→ ∀x man(x) → respects (x, parent)

5. Which of the following is not the style of inference?
a) Forward Chaining b) Resolution Refutation
c) Backward Chaining d) Modus Ponen

6. Which form is called as conjunction of disjunction of literals?
→ Conjunctive normal form

7. Which graph is used to present semantic network?
→ Directed graph

8. A set of general facts and if then rule supplied by an expert is called—
a) Knowledge base b) expansion model
c) Inference engine d) online analytical processing

10. Which of the following is related to face recognition application?
a) Expert System b) Artificial Neural Network
c) Natural Language Processing d) Machine Learning

10. Artificial Intelligence is about ____.
→ Making a machine intelligent

11. What was originally called the "imitation game" by its creator?
a) The turing test b) LISP
c) The Logical theorist d) Cybernetics

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c) Analytical d) Heuristic

24. How many states are available in state-space search?
→ a) 1 b) 2 c) 3 d) 4

25. What are the main goals of AI?
a) To create Expert Systems
b) To implement human intelligence in Machines
c) Both A and B
d) None of the above

26. Which of the following areas can contribute to build an intelligent system?
a) Philosophy b) Biology
c) Sociology d) All of the above

27. A computer program with AI cannot answer the generic questions it is meant to solve.
a) True b) False
c) AI is not used to answer question
d) None of the above

28. Which of the following is not the type of AI?
a) Reactive Machines b) Unlimited memory
c) Theory of mind d) Self-awareness

29. In which university the first demonstration of AI program run?
a) Carnegie Mellon University

30. Expert Ease was developed under the direction of ——.
→ Donald Michie

31. Artificial Intelligence is a way of ——
a) making a computer b) a computer controlled robot
c) Software thinking intelligently d) All of the above

32. Which of the following areas cannot contribute to build an intelligent system?
a) Neuron Science b) Maths
c) Computer Science d) Geology

33. How many types of AI are there?
a) 2 b) 3 c) 4 d) 5

34. In which year John McCarthy coined the ~~name~~ term, Artificial Intelligence?
a) 1950 b) 1953 c) 1956 d) 1959

35. Which of the following is not an application of AI?
a) Intelligent Robots
b) Handwriting Recognition
c) Speech Recognition
d) Content Mining

36. The traditional way to exit and LISP system is to enter—
a) quit b) exit c) bye d) ok

37. When a top-level function is entered, the LISP processor does?
a) It reads the function entered
b) It evaluates the function and the function's operands
c) It prints the results returned by the function
d) All of the above

38. A process that is repeated, evaluated and refined is called—
a) diagnostic b) descriptive
c) interpretive d) iterative

Set-3

1. An AI system developed by Terry A. Winograd to permit an interactive dialogue about a domain he called blocks-world.
   a) SIMD b) STUDENT
   c) SHRDLU d) BACON

2. DARPA, the agency that has funded a great deal of American Artificial Intelligence research, is part of the Department of:
   a) Education b) Defence
   c) Energy d) Justice

3. KEE is a product of:
   a) Intellicorpn b) Teknowledge
   c) Texas Instruments d) TechKnowledge

4. Default reasoning is another type of:
   a) Analogical reasoning b) Bitonic reasoning
   c) Non-monotonic reasoning d) Monotonic reasoning

5. Weak AI is
   → the study of mental faculties through the use of mental models implemented on a computer

6. Strong AI is:
   → the embodiment of human intellectual capabilities within a computer

7. One of the leading American robotics centers is the Robotics Institute located at:
a) RAND b) MIT c) CMU d) SRI

8. In LISP, the function evaluates both <variable> and <object> as:
a) setq b) add c) set d) eva

9. Computational learning theory analyzes the sample complexity and computational complexity of:
a) Forced based learning b) Weak learning
c) Inductive learning d) Knowledge based learning

10. Which is true?
a) All formal languages are like natural language
b) Not all formal languages are context-free

11. What stage of the manufacturing process has been described as "the mapping of function onto form"?
a) Distribution b) Project management
c) Design d) filed service

12. Programming a robot by physically moving it through the trajectory you want it to follow is called:
a) Continuous-path control b) robot vision control
c) contact sensing control d) pick-and-place control

13. In LISP, the addition 3+2 is entered as:
a) 3 add 2 b) 3+2
c) 3+2 = d) (+ 3 2)

14. The first AI programming language was called ___
a) Python b) IPL
c) LISP d) Machine Language

15. What kind of behaviour does the stochastic environment possess?
a) Deterministic b) Local
c) Primary d) Rational

16. Which of the following is most straightforward approach for planning algorithm?
a) Best-first-search b) Depth-first-search
c) State space search d) Binary

17. Which of the following was originally called the "imitation game" by its creator?
a) LISP b) The Turing Test
c) The Logic Theorist d) Cybernetics

18. The Strategic Computing Program was the project of the...
a) Defence Advanced Research Projects Agency
b) Jet Propulsion Laboratory
c) National Science foundation
d) All of the above

19. Computational intelligence is a form of:
a) Knowledge management b) Singularity
c) Artificial Intelligence d) Case-based reasoning

20. Which of the following is not the stage of AI?
a) Predictive analytics b) Diagnostic analytics
c) Cognitive analytics d) All of the above

21. Which of the following is not a stage of knowledge engineering?
a) Assemble the relevant knowledge
b) Encode general knowledge about the domain
c) Identify the task
d) Fixing a problem

22. The Core Components are constituents of AI are derived from:
a) Cognition b) Computation
c) Concept of Logic d) All of the above

23. What is State Space in AI?
a) The Whole Problem b) The Problem you design
c) Representing your problem with variable and parameter
d) None of the above

24. Face recognition system is based on which AI?
a) Serial AI b) Parallel AI
c) Applied AI d) Strong AI

25. What is the frame in AI?
a) Data Type b) Data Structure
c) A way of representing knowledge d) All of the above

26. A problem in Search space is defined by—
a) Last State b) Initial State
c) Intermediate State d) None of the above

27. A personal Consultant knowledge base contain information in the form of:
a) Parameter b) Contexts
c) Production rules d) All of the mentioned

28. Which approach to speech recognition avoids the problem caused by the variation in speech patterns among different speakers?
a) Continuous Speech recognition
b) Isolated word recognition
c) Connected word recognition
d) Speaker-dependent recognition

29. A Computer vision technique that relies on image templates is:
a) edge detection b) binocular vision
c) model based vision d) robert vision

30. Which of these schools was not among the early leaders in AI research?
a) Dartmouth University b) Harvard University
c) Massachusetts Institute of Tehnology d) Stanford University

31. A process that is repeated, evaluated and refined is called:
a) diagnostic b) descriptive
c) interpretive d) iterative

32. Visual clues that are helpful in Computer vision include
a) Color and motion b) depth and texture
c) height and weight d) Color, motion, depth of texture

33. General games involves
a) Single agent b) Multi-agent
c) Neither Single agent nor Multi-agent
d) Only Single agent and Multiagent

34. Adversial Search problem uses ---
→ Competitive Environment

35. Zero sum game has to be a game
a) Single player b) Two player
c) Multiplayer d) Three player

36. A game can be formally defined as a kind of search problem with the following components.
a) Initial State b) Successor Function
c) Terminal Test d) All of the above

37. The initial state and the legal moves for each side defined for the game —
a) Search tree b) Game Tree
c) State Space Search d) Forest

38. What are taken into account of state-space search?
a) Postconditions b) Pre Conditions
c) Effects d) Both Pre-conditions & Effects

39. How many ways are ~~there~~ available to solve the state-space search?
a) 1 b) 2 c) 3 d) 4

40. What is the other name for forward state-space search?
a) Progression Planning b) Regression Planning
c) Telf Planning d) None of the above

41. How many states are available in state-space search?
a) 1 b) 2 c) 3 d) 4

42. What is the main advantage of backward state-space search?
a) Cost b) Actions
c) Relevant Actions d) All of the above

43. Which search is equal to minimax search but eliminates the branches that can't influence the final decision?
a) Depth-first Search b) Breadth-first Search
c) Alpha-beta pruning d) None of the above

44. Which values are independent in minimax search algorithm?
a) Pruned leaves x and y b) Every states are dependent
c) Root is independent d) None of the above

45. Which value is assigned to alpha and beta in alphabeta pruning?
a) Alpha = max b) Beta = min
c) Beta = max d) Both Alpha = m & Beta = min

46. Where does the value of alpha-beta pruning gets increased?
a) Along the path of search b) Initial state itself
c) At the end d) None of the above

47. What is called as transposition table?
→ Hash table of previously seen positions

48. Which is identical to the closed list in Graph Search?
→ Transposition table

49. Which function is used to calculate the feasibility of whole game tree?
→ Evaluation function

50. Knowledge and reasoning also play a crucial role in dealing with environment.
→ Partially Observable