



LIBRARY
Brainware University
Barasat, Kolkata -700125

BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Diploma in Computer Science & Engineering

Course Name – Artificial Intelligence

Course Code - DCSE602

(Semester VI)

Time : 1 Hr.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) What are the composition for agents in artificial intelligence?
 - a) Program
 - b) Architecture
 - c) Both a & b
 - d) None of the mentioned
- (2) How many types of agents are there in artificial intelligence?
 - a) 1
 - b) 2
 - c) 3
 - d) 4
- (3) The main task of a problem-solving agent is
 - a) Solve the given problem and reach to goal
 - b) To find out which sequence of action will get it to the goal state
 - c) Both a and b
 - d) None of these.
- (4) In which agent does the problem generator is present?
 - a) Learning agent
 - b) Observing agent
 - c) Reflex agent
 - d) None of the mentioned
- (5) The structure of an agent's can be represented as _____.
 - a) Agent = Architecture + Agent Program
 - b) Agent = Architecture / Agent Program
 - c) Agent = Architecture * Agent Program
 - d) None of these
- (6) If there are a limited number of unambiguous states of the environment, then the nature of that environment is _____.
 - a) Discrete
 - b) Continuous
 - c) Static
 - d) Dynamic
- (7) Turing Test is used for _____.
 - a) Measuring the success of an intelligent behavior of a system
 - b) Measuring the fault of an intelligent behavior of a system

- c) Measuring the capacity of an intelligent behavior of a system d) None of these
- (8) An ideal rational agent is capable of doing expected actions to optimize its performance measure, based on _____.
- a) Its percept sequence and built-in knowledge base b) Its percept sequence and built-in environment base
 c) Its percept sequence and built-in performance base d) None of these
- (9) When the environment is accessible to an agent, then _____.
- a) Sensors of that agent can have access to the complete state of the environment b) Sensors of that agent can have access to the partial state of the environment
 c) Sensors of that agent can have access to the selected state of the environment d) None of these
- (10) To represent state space diagram of 8-puzzle problem in AI, possible moves are:
- a) Left and Right b) Right and Up
 c) Up and Down d) Left, right, up and down
- (11) State space in artificial intelligence belongs to _____.
- a) complete problem b) your definition to a problem
 c) Problem that you design d) Representing your problem with variable and parameter
- (12) The process where remove the details from a given state representation is known as _____.
- a) Extraction b) Abstraction
 c) Information Retrieval d) Data mining
- (13) Forward reasoning is _____.
- a) Data driven b) Goal driven
 c) Knowledge driven d) Resolution driven
- (14) A perceptron is a _____.
- a) Feed-forward neural network b) Back-propagation algorithm
 c) Back-tracking algorithm d) Feed Forward-backward algorithm
- (15) What is the heuristic function of greedy best-first search?
- a) $f(n) \neq h(n)$ b) $f(n) < h(n)$
 c) $f(n) = h(n)$ d) $f(n) > h(n)$
- (16) Where does the value of alpha-beta search get updated?
- a) Along the path of search b) Initial state itself
 c) At the end d) None of the mentioned
- (17) In A* algorithm, heuristic evaluation function is _____.
- a) $f(x)=h(x)$ b) $f(x)=h(x)+ g(x)$
 c) $f(x)=g(x)$ d) none of the above
- (18) Hill-Climbing approach stuck for the following reason(s)
- a) Plateau b) Local maxima
 c) Ridges d) All of above
- (19) General algorithm applied on game tree for making decision of win/lose is _____.
- a) DFS/BFS Search b) Heuristic Search Algorithms

c) Greedy Search Algorithms

d) MIN/MAX Algorithms

(20) For calculating objective function in 8 puzzle problem using A* algorithm, estimated cost from current state to goal state is calculated as.

- a) No of misplaced tiles
- b) No of correctly placed tiles
- c) Depth of current state
- d) None of these

(21) DFS uses which data structure?

- a) Stack
- b) Queue
- c) Priority queue
- d) Linked list

(22) Mathematical representation of space requirement for storing nodes in Breadth-First Search _____.

- a) Exponential
- b) Logarithmic
- c) Geometric progression
- d) None of these

(23) Time complexity for bidirectional search is _____.

- a) (b: no. of node, d: depth)
- b) (b: no. of node, d: depth)
- c) (b: no. of node, d: depth)
- d) (b: no. of node, d: depth)

(24) The deficiency in uniform Cost Search _____.

- a) It has no information on goal location
- b) It does not explore options in every direction.
- c) It is not optimal
- d) None of these

(25) A search technique that combines the strengths of uniform-cost search and greedy search _____.

- a) A* Tree Search
- b) A* graph Search
- c) Hill climbing search
- d) None of these

(26) Space complexity for Uniform Cost search _____.

- a) (b: no. of node, d: depth)
- b) (b: no. of node, d: depth)
- c) (b: no. of node, d: depth)
- d) (b: no. of node, d: depth)

(27) Best approach for Game playing problem _____.

- a) Linear approach
- b) Heuristic approach (Some knowledge is stored)
- c) Random approach
- d) An Optimal approach

(28) The form by which Constraint satisfaction problems on finite domains are solved _____.

- a) Search Algorithms
- b) Heuristic Search Algorithms
- c) Greedy Search Algorithms
- d) All of the mentioned

(29) What kind of environment is used by adversarial search problems?

- a) Competitive Environment
- b) Cooperative Environment
- c) Neither Competitive nor Cooperative Environment
- d) Only Competitive and Cooperative Environment

(30) 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 mentioned

(31) The truth values of traditional set theory is _____ and that of fuzzy set is _____.

- a) Either 0 or 1, between 0 & 1
- b) Between 0 & 1, either 0 or 1
- c) Between 0 & 1, between 0 & 1
- d) Either 0 or 1, either 0 or 1

(32) How new states are generated in genetic algorithm?

LIBRARY
Brainware University
Berasat, Kolkata - 700125

- a) Composition
c) Cross over
- b) Mutation
d) Both b and c
- (33) How many logical connectives are there in artificial intelligence?
a) 2
c) 4
b) 3
d) 5
- (34) Which modifies the performance element so that it makes better decision?
a) Performance element
c) Learning element
b) Changing element
d) None of these
- (35) Graph used to represent semantic network is,
a) Undirected graph
c) Directed Acyclic graph (DAG)
b) Directed graph
d) Complete graph
- (36) The process by which the brain incrementally orders actions needed to complete a specific task is referred as,
a) Unorder planning
c) Total order planning
b) Partial order planning
d) None of these
- (37) What are you predicating by the logic: $\forall x: \exists y: \text{loyalto}(x, y)$.
a) Everyone is loyal to someone
c) Everyone is loyal to all
b) Everyone is not loyal to someone
d) Everyone is loyal
- (38) Forward chaining is a
a) Type of knowledgebase
c) Type of learning
b) Type of planning
d) Method of reasoning
- (39) Relevance-Based Learning(RBL) is example of
a) Inductive learning
c) Supervised learning
b) Deductive learning
d) Unsupervised learning
- (40) Classification is a classic example of
a) Semi-supervised learning models.
c) supervised learning models.
b) Reinforcement learning models
d) unsupervised learning models.
- (41) Supervised learning models use _____
a) labeled data
c) labeled knowledgebase
b) unlabeled data
d) unlabeled knowledgebase
- (42) Which is(are) operators of Genetic Algorithm?
a) Selection
c) Cross over
b) Mutation
d) All of these
- (43) Which among the following is used to represent knowledgebase?
a) Logic
c) Semantic net
b) Frame
d) All of these
- (44) _____ transforms the fuzzy set obtained by the inference engine into a crisp value.
a) defuzzification Module
c) both of these
b) knowledge base
d) None of these
- (45) _____ starts with a general statement and examines the possibilities to reach a specific, logical conclusion.
a) Deductive Reasoning
c) Auditory Learning
b) Inductive Reasoning
d) None of these

- (46) "All women of age above 65 years are grandmothers. Rina is 70 years. Therefore, Rina is a grandmother." _____ it belongs to
- a) Deductive Reasoning
 b) Inductive Reasoning
 c) Auditory Learning
 d) None of these
- (47) The difference between procedural knowledge and declarative knowledge is based on _____.
- a) Procedural knowledge involves facts and concepts, while declarative knowledge involves explanation of how something is done.
 b) Procedural knowledge is based on observation, while declarative knowledge involves understanding oneself.
 c) Procedural knowledge involves how something is done, while declarative knowledge involves facts and concepts.
 d) Procedural knowledge involves understanding oneself, while declarative knowledge is based on observation.
- (48) Text planning is involved in _____.
- a) Natural Language Understanding
 b) Natural Language Generation
 c) Both a and b
 d) None of these
- (49) In water jug problem, the rule "Pour water from 3-gallon jug into 4-gallon jug until 4-gallon jug is full" is represented as :
- a) $(X+Y,0)$
 b) $(0,X+Y)$
 c) $(X-(3-Y),3)$
 d) $(4,Y-(4-X))$
- (50) Flight-tracking system is application of _____.
- a) Expert Systems
 b) Natural Language Processing
 c) Neural Networks
 d) Robotics
- (51) When the meaning of any sentence depends upon the meaning of the sentence just before it _____.
- a) Discourse Integration
 b) Referential ambiguity
 c) Morpheme
 d) None of these
- (52) What kind of ambiguity of the following "Rima went to Gauri. She said, "I am tired.""
- a) Referential ambiguity
 b) Lexical ambiguity
 c) Syntax Level ambiguity
 d) None of these
- (53) Disadvantage of Top-Down approach _____.
- a) is inefficient, as the search process has to be repeated if an error occurs
 b) is inefficient, because complicate to implement.
 c) both of these
 d) none of these
- (54) Information which is widely accepted by the Knowledge Engineers and scholars in the task domain _____.
- a) Factual Knowledge
 b) Heuristic Knowledge
 c) Acquisition knowledge
 d) None of these
- (55) Natural Language processing can be useful for _____.
- a) Automatic Text Summarization
 b) Automatic Question-Answering Systems
 c) Information Retrieval
 d) All of the mentioned
- (56) Coreference Resolution is a part of _____.
- a) Anaphora Resolution
 b) Given a sentence or larger chunk of text, determine which words ("mentions") refer to the same objects ("entities")
 c) Both of these
 d) None of these
- (57) Morphological Segmentation belongs to _____.

a) Discourse Analysis

b) Separate words into individual morphemes and identify the class of the morphemes

c) an extension of propositional logic

d) None of the mentioned

(58) In partial order plan. A. Relationships between the actions of the behavior are set prior to the actions. B. Relationships between the actions of the behavior are not set until absolutely necessary.

a) A is true

b) B is true

c) Either A or B can be true depending upon situation

d) None of these

(59) Which of the following statement is a proposition?

a) Get me a glass of milkshake

b) God bless you!

c) What is the time now?

d) The only odd prime number is 2

(60) Let P: I am in Bangalore. , Q: I love cricket. ; then $q \rightarrow p$ (q implies p) is:

a) If I love cricket then I am in Bangalore

b) If I am in Bangalore then I love cricket

c) I am not in Bangalore

d) I love cricket

LIBRARY
Brajware University
Barasat, Kolkata - 700125