



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Science (Honours) in Computer Science

Course Name – Artificial Intelligence

Course Code - BCSC601

(Semester VI)

Time allotted : 1 Hrs.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) Which of the following contains the output segments of Artificial Intelligence programming?

a) Printed language and synthesized speech	b) Manipulation of physical object
c) Locomotion	d) All of the mentioned
- (2) 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
- (3) How do you represent “All dogs have tails”?

a) $\forall x: \text{dog}(x) \rightarrow \text{tail}(x)$	b) $\forall x: \text{dog}(x) \rightarrow \text{tail}(y)$
c) $\forall x: \text{dog}(y) \rightarrow \text{tail}(x)$	d) $\forall x: \text{dog}(x) \rightarrow \text{tail}(x)$
- (4) Which instruments are used for perceiving and acting upon the environment?

a) a. Sensors and Actuators	b) b. Sensors
c) c. Perceiver	d) d. None of these
- (5) What is the goal of artificial intelligence?

a) a. To solve real-world problems	b) b. To solve artificial problems
c) c. To explain various sorts of intelligence	d) d. To extract scientific causes
- (6) Which of the following could be an approach to Artificial Intelligence?

a) a. Strong Artificial Intelligence	b) b. Weak Artificial Intelligence
c) c. Applied Artificial Intelligence	d) d. All of these
- (7) What is the name of the computer program that simulates the thought processes of human beings?

- a) a. Learning agent
c) c. Reflex agent
- b) b. Observing agent
d) d. None of these
- (21) Which element in agent is used for selecting external actions?
a) a. Perceive
c) c. Learning
- b) b. Performance
d) d. Actuator
- (22) External actions of the agent are selected by
a) a. Perceive
c) c. Learning
- b) b. Performance
d) d. Actuator
- (23) The action of the Simple reflex agent completely depends upon
a) a. Perception history
c) c. Learning theory
- b) b. Current perception
d) d. Utility functions
- (24) Agents behaviour can be best described by
a) a. Perception sequence
c) c. Sensors and Actuators
- b) b. Agent function
d) d. Environment in which agent is performing
- (25) In which agent, the problem generator is present?
a) a. Learning agent
c) c. Reflex agent
- b) b. Observing agent
d) d. None of these
- (26) An 'agent' is anything that,
a) a. Perceives its environment through sensors and acting upon that environment through actuators
c) c. A embedded program controlling line following robot
- b) b. Takes input from the surroundings and uses its intelligence and performs the desired operations
d) d. All of these
- (27) A heuristic is a way of trying
a) a. To discover something or an idea embedded in a program
c) c. To compare two nodes in a search tree to see if one is better than the other
- b) b. To search and measure how far a node in a search tree seems to be from a goal
d) d. All of these
- (28) Which search method takes less memory?
a) a. Depth-First Search
c) a. Both Depth First Search and Breadth First Search
- b) b. Breadth-First search
d) b. Linear Search
- (29) Which is true regarding BFS?
a) a. BFS will get trapped exploring a single path
c) c. BFS is not guaranteed to find a solution, if exists
- b) b. The entire tree so far been generated must be stored in BFS
d) d. BFS is nothing but Binary First Search
- (30) What is the term used for describing the judgemental or common-sense part of problem solving?
a) a. Heuristic
c) c. Value based
- b) b. Critical
d) d. Analytical
- (31) What is a heuristic function?
a) a. A function to solve mathematical problems
- b) b. A function which takes parameters of type string and returns an integer value

- c) c. A function whose return type is nothing d) d. A function that maps from problem state descriptions to measures of desirability.
- (32) In which touring problem, each city must be visited exactly once? The aim is to find the shortest tour.
- a) a. Finding shortest path between a source and a destination b) b. Travelling Salesman problem
- c) c. Map coloring problem d) d. Depth first search traversal on a given map represented as a graph
- (33) A production rule consists of
- a) a. A set of Rule b) b. A sequence of steps
- c) c. Set of Rule & sequence of steps d) d. Arbitrary representation to problem
- (34) A problem solving approach works well for
- a) a. 8-Puzzle problem b) b. 8-queen problem
- c) c. Finding an optimal path from a given source to a destination d) d. Mars Hover (Robot Navigation)
- (35) Which is not a type of First Order Logic (FOL) Sentence?
- a) a. Atomic sentence b) b. Complex sentences
- c) c. Quantified sentence d) d. Quality Sentence
- (36) A constructive approach in which no commitment is made unless it is necessary to do so, is
- a) a. Least commitment approach b) b. Most commitment approach
- c) c. Nonlinear planning d) d. Opportunistic planning
- (37) A plan that describes how to take actions in levels of increasing refinement and specificity is
- a) a. Problem solving b) b. Planning
- c) c. Non-hierarchical plan d) d. Hierarchical plan
- (38) Uncertainty arises in the Wumpus world because the agent's sensors give only
- a) a. Full & Global information b) b. Partial & Global Information
- c) c. Partial & local Information d) d. Full & local information
- (39) Partial order planning involves
- a) a. Searching over the space of possible plans b) b. Searching over possible situations
- c) c. Searching the whole problem at once d) d. Searching the best
- (40) Two literals are complementary if
- a) a. They are equal b) b. They are identical and of equal sign
- c) c. They are identical but of opposite sign d) d. They are unequal but of equal sign
- (41) Third component of a planning system is to
- a) a. Detect when a solution has been found b) b. Detect when solution will be found
- c) c. Detect whether solution exists or not d) d. Detect whether multiple solutions exist
- (42) Which of the following is true related to 'Satisfiable' property?
- a) a. A statement is satisfiable if there is some interpretation for which it is false b) b. A statement is satisfiable if there is some interpretation for which it is true
- c) c. A statement is satisfiable if there is no interpretation for which it is true d) d. A statement is satisfiable if there is no interpretation for which it is false
- (43) Inference algorithm is complete only if

- a) a. It can derive any sentence
 b) b. It can derive any sentence that is an entailed version
 c) c. It is truth preserving
 d) d. It can derive any sentence that is an entailed version & truth preserving
- (44) Which search uses the problem specific knowledge beyond the definition of the problem?
 a) a. Informed search
 b) b. Depth-first search
 c) c. Breadth-first search
 d) d. Uninformed search
- (45) Default reasoning is another type of
 a) a. Monotonic reasoning
 b) b. Analogical reasoning
 c) c. Bitonic reasoning
 d) d. Closed world assumption.
- (46) Which of the following is true in Statistical reasoning?
 a) a. The representation is extended to allow some kind of numeric measure of certainty to be associated with each statement
 b) b. The representation is extended to allow 'TRUE or FALSE' to be associated with each statement
 c) c. The representation is extended to allow some kind of numeric measure of certainty to be associated common to all statements
 d) d. The representation is extended to allow 'TRUE or FALSE' to be associated common to all statements
- (47) Treatment chosen by doctor for a patient for a disease is based on ____
 a) a. Only current symptoms
 b) b. Current symptoms plus some knowledge from the textbooks
 c) c. current symptoms plus some knowledge from the textbooks plus experience
 d) d. All of these
- (48) ANNs are complex -----with many parameters.
 a) Linear Functions
 b) Nonlinear Functions
 c) Discrete Functions
 d) Exponential Functions
- (49) Definition of Generality is
 a) Ease with which the method can be adapted to different domains of applicatio
 b) The average time required to construct the target knowledge structures from some specified initial structures
 c) A learning system to function with unreliable feedback and with a variety of training examples.
 d) A learning system to function with unreliable feedback and with a variety of training examples
- (50) Which modifies the performance element so that it makes better decision?
 a) Performance element
 b) Changing element
 c) Learning element
 d) None of these
- (51) What test reach you destination of decision tree ?
 a) Single test
 b) Two test
 c) Sequence of test
 d) No test
- (52) How many things are concerned in the design of a learning element?
 a) 1
 b) 2
 c) 3
 d) 4
- (53) Which models is/are used in machine learning?
 a) Decision tree
 b) Neural network
 c) Propositional and FOL rule
 d) All of these
- (54) full form of ANN is

- a) Artificial neural network
c) Ameno neural network
- b) Artificial neuron network
d) Artificial neural networking
- (55) Automated vehicle is an example of
- a) Supervised learning
c) Active learning
- b) Unsupervised learning
d) Reinforcement learning
- (56) ML is a field of AI consisting of learning algorithms that?
- a) Improve their performance
c) Over time with experience
- b) At executing some task
d) All of the above
- (57) The model will be trained with data in one single batch is known as ?
- a) Batch learning
c) Both A and B
- b) Offline learning
d) None of the above
- (58) In Model based learning methods, an iterative process takes place on the ML models that are built based on various model parameters, called ?
- a) mini-batches
c) hyperparameters
- b) optimizedparameters
d) superparameters
- (59) To find the minimum or the maximum of a function, we set the gradient to zero because:
- a) The value of the gradient at extrema of a function is always zero
c) Both A and B
- b) Depends on the type of problem
d) None of the above
- (60) Which of the following is an example of active learning?
- a) News recommender system
c) Automated vehicle
- b) Dust cleaning machine
d) None of these