BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – BCA-2019/BCA-2021
Course Name – Artificial Intelligence
Course Code - BCAD502B
(Semester V)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. *Choose the correct alternative from the following :*

(i) What is the function of an Artificial Intelligence "Agent"?

a) Mapping of goal sequence to an action

b) Work without the direct interference of the people

c) Mapping of precept sequence to an action

d) Mapping of environment sequence to an action

(ii) Which particular generation of computers is associated with artificial intelligence?

a) Second
b) Fourth
c) Fifth
d) Third

(iii) The factors affecting the performance of learner system do not include?

a) Representation scheme used
b) Training scenario
c) Type of feedback
d) Good data structures

(iv) An algorithm A is admissible if

a) It is not guaranteed to return an optimal solution when one exists

b) It is guaranteed to return an optimal solution when one exists

c) It returns more solutions, but not an optimal one

d) It guarantees to return more optimal solutions

(v) An Artificial Intelligence technique that allows computers to understand associations and relationships between objects and events is called:

a) heuristic processing
b) cognitive science
c) relative symbolism
d) pattern matching

(vi) The field that investigates the mechanics of human intelligence is:

a) history
b) cognitive science
c) psychology
d) sociology

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(vii) External actions of the agent are selected by
a) Perceive
b) Performance
c) Learning
d) Actuator

(viii) The action of the Simple reflex agent completely depends upon
a) Perception history
b) Current perception
c) Learning theory
d) Utility functions

(ix) What among the following is/are the example of the intelligent agent/agents?
a) Human
b) Robot
c) Autonomous Spacecraft
d) All of these

(x) Which Instruments are used for perceiving and acting upon the environment?
a) Sensors and Actuators
b) Sensors
c) Perceiver
d) None of these

(xi) Which element in agent are used for selecting external actions?
a) Perceive
b) Performance
c) Learning
d) Actuator

(xii) The action of the Simple reflex agent completely depends upon _____
a) Perception history
b) Current perception
c) Learning theory
d) Utility functions

(xiii) In many problems the path to goal is irrelevant, this class of problems can be solved using _____
a) Informed Search Techniques
b) Uninformed Search Techniques
c) Local Search Techniques
d) Informed & Uninformed Search Techniques

(xiv) Which is not a property of representation of knowledge?
a) Representational Verification
b) Representational Adequacy
c) Inferential Adequacy
d) Inferential Efficiency

(xv) Inference is deriving a new sentence from the KB.
a) Completely Observable
b) Partially Observable
c) Neither Completely nor Partially Observable
d) Only Completely and Partially Observable

Group-B
(Short Answer Type Questions)   3 x 5=15

2. Define agents with examples.   (3)
3. Express the idea of predicate logic.   (3)
4. Illustrate the steps of algorithm for Breadth-First-Search.   (3)
5. Write the Different Layers on CNN   (3)
6. What is pragmatic analysis in NLP? What is pragmatic ambiguity?   (3)
OR
What is a Neural Network?   (3)

Group-C
(Long Answer Type Questions)   5 x 6=30

7. Explain Neural Network?   (5)
8. Explain Natural Language Processing?   (5)
9. Explain MIN-MAX algorithm with example ?   (5)
10. Define game theory? How is it important in AI?   (5)
11. Explain the following terms: Sensor, Actuators and Effectors.   (5)
12. Explain bidirectional search algorithm?   (5)

OR

Explain Alpha—Beta pruning with proper example.

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