



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 6th Semester Examination, 2023

CC13-COMPUTER SCIENCE (61)

ARTIFICIAL INTELLIGENCE

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

Answer any five questions

1×5 = 5

1. What is AI?
2. Expand CSP. Give an example of CSP.
3. What is weak AI and strong AI?
4. Differentiate between declarative knowledge and procedural knowledge.
5. What is CNF and DNF?
6. Define a rational agent.
7. How is machine learning related to AI?
8. State two equivalence laws.

GROUP-B

Answer any three questions

5×3 = 15

9. Explain Turing test.
10. Describe the A* algorithm.
11. What are semantic networks? Explain with an example.
12. Convert the following sentences into wff of predicate logic.
 - (i) Mia dislikes children who drink tea
 - (ii) Any person who is respected by every person is a leader.
13. What are the points of difference between uninformed search and informed search?

GROUP-C

Answer any *two* questions

10×2 = 20

14. What are the different applications of AI?
15. Explain the Hill climbing technique stating an example. What are the problems of this technique?
16. There are three facts given:
- (a) All people who are graduating are happy
 - (b) All happy people smile
 - (c) Someone is graduating
- Given the above facts, solve the following questions.
- (i) Convert to FOL (first order logic)
 - (ii) Convert FOL to CNF
 - (iii) Prove that “someone is smiling” using resolution
 - (iv) Draw the resolution tree.
17. Explain Depth first search and Breadth first search algorithm.

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