2022
COMPUTER SCIENCE
B.Sc. Sixth Semester End Examination - 2022
Paper - C13T

Full Marks : 40   *Time : 2 hours*

The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.
Illustrate the answers wherever necessary.

A. Answer any five questions.   **5×2=10**

1. (i)   What are the basic components of propositional logic?

    (ii) Differenticate greedy search and A* search.

    (iii) What are the factors that a rational agent should depend on at any given time?

(iv) Explain the structure of an AI Agent.

(v) What do you understand by "PEAS"?

(vi) Define problenm space and search space.

(vii) Write a grammar to parse the given sentence.

"It rains heavily"

(viii) What is a Horn Clause?

B. Answer any four questions. 4×5=20

2. Write down the differences between informed and uninformed search.

3. With suitable example, explain bidirectional search.

4. In the given WFF valid? Justify using truth table. 5

$$[(A \vee B) \wedge (B \vee C))] \Rightarrow (A \vee C)$$

5. Explain about rote learning in detail. 5

6. Derive the time complexity of BFS and DFS. 3+2

7. Define heuristic search. Explain the steps in "Depth Limited Search" and illustrate it using suitable example.
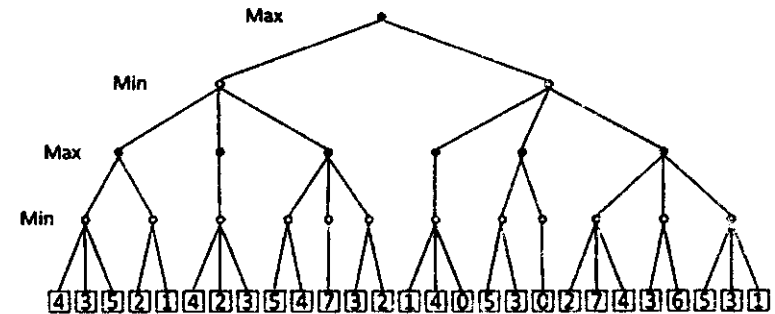
5

(vii) What is game playing? Draw the game tree for TIC-TAC-TOE and how heuristic approach can be used to solve this game. 1+4

Group - C

C. Answer any one questions. 10×1=10

(i) What is constraint satisfaction problem (CSP) explain one real life example of CSP Problem. 5

(ii) Perform the alpha-beta pruning algorithm on the figure below. 5

10. What is A* search? Explain various stages of A* search with an example. 10