

SRM UNIVERSITY DELHI-NCR, SONEPAT

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Registration No.:

11519210005

MST-I(APRIL-2022)

B.TECH (CSE) VI Semester

Subject Code: CS 3002

Subject Name: Artificial Intelligence & Expert Systems

Duration: 90 min

Max. Marks: 50

Note: Question Paper consists of two parts (Part-A and Part-B).

All Questions are compulsory in Part-A.

Answer any THREE Questions from Part-B

PART A (10*2= 20 marks)

1. What are the 4 domains where AI can be used effectively? Explain.
2. What points are to be kept in mind while formulating a problem?
3. Differentiate between types of searches and give examples.
4. Why Min Max is not an efficient game playing algorithm?
5. Explain the components of Game playing.
6. Explain the disadvantages of Hill Climbing using examples.
7. DFS vs BFS: Which one is better and why?
8. Which Heuristic algorithm works better according to you? Justify.
9. What is the importance of the term Search in AI? Explain with example.
10. Why is game playing of interest to AI?

PART B (3*10= 30 marks)

11. Take any graph and solve it using DFS Algorithm and mention its advantages and disadvantages with example.
12. Explain the Alpha Beta Pruning Algorithm using example.
13. Define Problem System and explain its characteristics.
14. Explain the A* algorithm with example. Is it Heuristic algorithm? If yes, justify?

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MAY
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Answer any THREE Questions from Part-B

PART A:(10*2)

1. Define depth-first search?
2. Define State Space.
3. Discuss various rules of production systems.
4. Give the drawback of DFS.
5. What is the min-max technique?
6. Define Alpha-beta pruning.
7. Give example problems for Artificial Intelligence.
8. Write the time & space complexity associated with depth limited search.
9. List the performance measures of search strategies
10. Differentiate informed and uninformed search techniques.

PART B:(10*3)

- ✓ 11. What is a constraint satisfaction problem? Discuss in detail. (10)
- ✓ 12. Differentiate A* and AO* search strategies in detail. (10)
13. What do you mean by AI? What are the different approaches to AI? Discuss in detail. (2,8)
14. What is Knowledge representation? What are the different ways of representing Knowledge? Discuss. (3,7)