

(3 Hours)

[Total Marks: 80]

Note: i) Question no. 1 is compulsory
 ii) Attempt any three from remaining
 iii) Assume necessary data

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| 1 | (a) Explain the Learning Agent with suitable block diagram. | 5 |
| | (b) Give difference between Informed Search and Uninformed search Algorithms. | 5 |
| | (c) Give PEAS and state space description for "Automobile Driver Agent" | 5 |
| | (d) Explain different quantifiers with example. | 5 |
| 2 | (a) Explain various properties of task environment with suitable examples | 10 |
| | (b) What is Game Playing Algorithm? Draw a game tree for Tic-Tac-Toe problem. | 10 |
| 3 | (a) Illustrate forward-chaining and backward-chaining algorithm with suitable example. | 10 |
| | (b) Explain Hill Climbing Algorithm and problems that occurs in hill climbing algorithm? | 10 |
| 4 | (a) What do you mean by Resolution? Also discuss the steps in Resolution. | 10 |
| | (b) Consider problem of changing a flat tire. The goal is to have a good spare tire properly mounted on to the car's axle, where the initial state has a flat tire on the axle and a good spare tire in the trunk. Give the ADL description for the problem and also discuss the solution | 10 |
| 5 | (a) Explain Partial-order planning with suitable example. | 10 |
| | (b) Define Belief Network. Describe the steps of constructing belief network with an example. | 10 |
| 6 | Write short notes on any Two of following: | |
| | (a) Explain different applications of AI in Healthcare, Retail and Banking. | 10 |
| | (b) Alpha Beta Pruning | 10 |
| | (c) Wumpus world Environment | 10 |