

(3 Hours)

[Total Marks: 80]

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

- 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