(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**