Q.no	UNIT 1
1	Define in your own words: (a) intelligence (b) artificial intelligence
2	Write down brief history and evolution of AI.
3	Explain Turing Test.
4	Define in your own words: (a) agent, (b) rationality, (c) logical reasoning.
5	Define intelligent agent. Explain various types of agent programs with suitable example
6	Are reflex actions (such as flinching from a hot stove) rational? Are they intelligent?
7	To what extent are the following computer systems instances of AI: • Supermarket bar code scanners. • Web search engines. • Voice-activated telephone men
8	Is AI a science, or is it engineering? Or neither or both? Explain.
9	"Surely computers cannot be intelligent—they can do only what their programmers tell them. "Is the latter statement true, and does it imply the former?
10	Surely animals cannot be intelligent—they can do only what their genes tell them. ".Is the latter statement true, and does it imply the former?
11	"Surely animals, humans, and computers cannot be intelligent—they can do only what their constituent atoms are told to do by the laws of physics." Is the latter statement true, and does it imply the former?
12	"Surely animals, humans, and computers cannot be intelligent—they can do only what their constituent atoms are told to do by the laws of physics." Is the latter statement true, and does it imply the former?
13	Write down the applications of AI.
14	What are PEAS in context to intelligent agents.
15	What are various characteristics on an agent environment. Describe with example.
16	Write down present and future scope of AI.
17	What are various steps involved in problem solving? Explain with suitable example.
18	Describe the role of Artificial Intelligence in Natural Language Processing
19	Design one single and one multi agent system intelligent agents by describing all PEAS.

20	Design following intelligent agents with detailed description of all PEAS for them. i. Vacuum Cleaner ii. Paddy crop cutter.
21	Define artificial intelligence and elaborate the applications of artificial intelligence in the real world.
22	Define AI and Elaborate the applications of AI in Real World
Q.no	**UNIT 2**
1	Explain Hill climbing algorithm. Explain Local maxima, Global Maxima and plateau for an example
2	Define heuristic function and define the heuristics for 8-tile puzzle to move from initial state to goal state. Explain the A* algorithm for 8 tile puzzle.
3	3. Explain iteractive deepening depth first search (IDDFS) and justify its parameters based on time complexity, space complexity.
4	What is the difference between blind search and heuristic search? Explain with suitable example
5	Explain the iterative deepening A* algorithm
6	With an example explain A star algorithm. State the properties of A star algorithm.
7	Compare and explain Depth First search and Breadth First search methods
8	Explain iterative deepening depth first search (DFID) and justify its parameters based on time complexity, space complexity.
9	Differentiate between uninformed and informed search methods.
10	Apply crypt-arithmetic to solve the problem and represent the state search space to solve. TWO + TW = FOUR.
11	Explain Hill climbing algorithm. Explain Local maxima, Global Maxima and Plateau for an example
12	Explain importance of pruning CLOSED and OPEN Lists of A* algorithm

13	Explain in detail A* algorithm in detail
14	Explain Depth Limited DFS algorithm with the help of an example
15	Explain why problem formulation must follow goal formulation.
16	Define in your own words the following terms: state, state space, search tree, search Node
17	Explain goal, action, transition model, and branching factor.
18	What's the difference between a world state, a state description, and a search node? Why is this distinction useful?
19	Which of the following are true and which are false? Explain your answers. 1. Depth-first search always expands at least as many nodes as A∗ search with an admissible heuristic. 2. h(n)=0 is an admissible heuristic for the 8-puzzle. 3. A∗ is of no use in robotics because percepts, states, and actions are continuous. 4. Breadth-first search is complete even if zero step costs are allowed.
20	Prove each of the following statements, or give a counterexample: a. Breadth-first search is a special case of uniform-cost search. b. Depth-first search is a special case of best-first tree search. c. Uniform-cost search is a special case of A∗ search.
21	Implement BFS uninformed search for 8-puzzle problem
22	Implement Uniform Cost Search uninformed search for 8-puzzle problem.
23	Implement DFS uninformed search for 8-puzzle problem.
24	Implement Depth Limited uninformed search for 8-puzzle problem.
25	Implement Iterative Deepening uninformed search for 8-puzzle problem.
26	Explain in detail Greedy Informed Search Approach with example.
27	Explain in detail A* Informed Search Algorithm with example.
28	Explain in detail Hill Climbing Local Search and Optimization Algorithm with example.
29	Explain in detail Simulated Annealing Local Search and Optimization Algorithm with example
30	Explain in detail Genetic Algorithm Optimization with example.
31	Explain in detail Constraint Satisfaction Problem with example.
32	Explain in detail Game playing and optimal decision making with example
33	Explain in detail Minimax game playing algorithm with example
34	Explain in detail Alpha Beta Pruning with example.
35	What are stochastic games? Explain in detail with example

36	Give the name of the algorithm that result from each of the following special cases: a. Local beam search with k = 1. b. Local beam search with one initial state and no limit on the number of states retained. c. Simulated annealing with T = 0 at all times (and omitting the termination test). d. Simulated annealing with T = ∞ at all times. e. Genetic algorithm with population size N = 1.
37	Solve the following CSP problem of cryptarithmetic problem: SEND + MORE ---------- MONEY
Q.No	UNIT-3
1.	What is adversial search?
2.	Write a short note on: Feature of AI game.
3.	Write a short note on: Zero-sum game.
4.	What is CSP?explain with an example.
5.	Explain example of real time csps.
6.	How CSP's can be classified? give example.
7.	How to solve crypt arithmatic problem? explain with example
8.	How to improve efficiency of backtracking in CSP.
9.	Write a short notes on: Relevant aspects of AI game.
10.	Write a short notes on: Game Types.
11.	Explain minimax algorithm with an example
12.	Give minma algorithm properties.
13.	Apply crypt-arithmetic to solve the problem and represent the state search space to solve. TWO + TW = FOUR.
14.	Solve the following CSP problem of cryptarithmetic problem: SEND + MORE ---------- MONEY
Q.NO	UNIT-4
1.	What is Knowledge base agent?
2.	Describe WUMPUS WORLD environment. Specify PEAS properties and type of environment for th

3.	What is logic ? explain various knowledge representing techniques.
4.	What is preposition logic? Write syntax and semantics and example sentences for preposition logic.
5.	Explain the inference process in case of preposition logic with suitable examples.
6.	Explain Horn clause with Example.
7.	Explain various method of knowledge representation with example.
8.	Explain PEAS describe for WUMPUS WORLD.
9.	Explain backward chaining giving suitable example.
10.	Write short note on predicate logic
11.	Explain various methods of knowledge representation with example.
12.	Explain PEAS descriptors for WUMPUS WORLD.