

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2022

M.Tech-II Semester (ECE)

COURSE CODE (CREDITS): 21M11EC212 (3)

MAX. MARKS: 25

COURSE NAME: Artificial Intelligence and Expert Systems

COURSE INSTRUCTOR: Dr Emjee Puthooran

MAX. TIME: 1 Hour 30 Min

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. (a) What do you mean by Turing test? Contrast it with the Chinese room problem. [2]

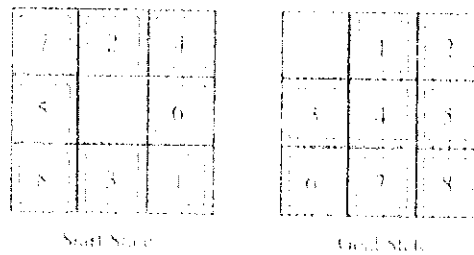
(b) What are the different properties of the task environment in the context of an intelligent agent? Briefly explain any three. [3]

Q2. (a) What are the limitations of a simple reflex agent? Describe how a problem solving agent overcomes the limitations of the simple reflex agent. [2]

(b) Explain the following terms related to a problem-solving agent (i) Transition model (ii) Goal Test (iii) Path Cost. [3]

Q3. What are uninformed search methods? With a suitable example describe breadth first search method. [5]

Q4. The start state and goal state of the 8-puzzle problem is given in the figure below. Using A* algorithm, find its solution. State clearly the cost function used and heuristic function used. [5]



Q5. In the tree structure shown below, '1' is the starting node and '10' is the goal node. Write a Python program to find the solution using Depth First Search algorithm. [5]

