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| **P.V.P Siddhartha Institute of Technology** | | | | | | | | | | | | |
| **Department of Computer Science and Engineering** | | | | | | | | | | | | |
| **Course: B. Tech** | | | **Year: III** | | | **Semester: I** | **Descriptive: I** | **A.Y:2024-2025** | | | | |
| **Subject Code: 20CS4501D** | | | | **Subject Name: ARTIFICIAL INTELLIGENCE** | | | | | | **Regulation:PVP20** | | |
| **Duration: 1 hr 30 min** | | | | | **Maximum Marks: 15 Marks** | | | **Date: 16/08/2024** | | | **Session: F.N** | |
| **Answer all the Questions. Each Question carries 5 Marks 3×5M=15M** | | | | | | | | | | | | |
| **Q. No** |  | | | | | | | | **Marks** | | **CO** | **Level** |
| 1. | a) | For the given task environment “**Shopping for used AI books on the Internet** “construct the following:  - PEAS description  **- C**haracteristics/properties  - Identify a suitable agent (simple/ Model /Goal/Utility) to perform the task and explain with a schematic diagram.  -Design the Agent Program/Functionality as per the identification made above. | | | | | | | 5 | | CO4 | L3 |
| 2. | a) | 8-puzzle problem given an initial state and final state to be reached:   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | 2 | 8 | 3 | | 1 | 6 | 4 | | 7 |  | 5 | | |  |  |  | | --- | --- | --- | | 1 | 2 | 3 | | 8 |  | 4 | | 7 | 6 | 5 | | | **INITIAL STATE** | **GOAL STATE** |   -Identify a suitable Informed(Heuristic) Search strategy to solve the above puzzle  -Design an algorithm for the identified search strategy.  -Explain step by step process for solving the puzzle using the algorithm described above. | | | | | | | 5 | | CO2 | L3 |
| 3. | a) | Explain in detail about knowledge based agents along with its functionality and architecture. | | | | | | | 5 | | CO1 | L2 |