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**Reg.No**

**Sona College of Technology (Autonomous), Salem -5.**

**SET - 1 Department of CSE**

**Continuous Internal Evaluation Test –1**

**U15CS702 – Artificial Intelligence**

**Common to All sections (IV Year / VII Semester)**

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| **Date : 17.08.2021 Duration : 1 ½ hours**  **Time slot : 09.15 To 10.45 am Marks : 50** | | | | | **Levels of**  **B.T** | **Course Outcomes** |
| **PART – A Answer All Questions (6 x 2 = 12 Marks)** | | | | |  |  |
| 1. | What is an agent? Differentiate between an agent function and an agent program. | | | | **LOTS** | **1** |
| 2. | Give the PEAS description of an interactive English tutor system | | | | **LOTS** | **1** |
| 3. | Identify whether the assertion given below is true or false and support your answer with appropriate examples or counterexamples.  “An agent that senses only partial information about the state cannot be perfectly rational.” | | | | **HOTS** | **1** |
| 4. | Are there agent functions that cannot be implemented by any agent program? If so, what would be the reason? | | | | **HOTS** | **1** |
| 5. | What are the various uninformed search techniques? | | | | **LOTS** | **2** |
| 6. | List out the properties for search algorithms. | | | | **LOTS** | **2** |
| **PART – B Answer All questions (2 x 5 = 10 Marks)** | | | | |  |  |
| 7. | Explain the various approaches adopted in artificial intelligence. | | | | **LOTS** | **1** |
| 8. | Difference between BFS and DFS. | | | | **LOTS** | **2** |
| **PART – C Answer All questions (2 x 14 = 28 Marks)** | | | | |  |  |
| 9. | (a) | (i) | To what extent are the following computer systems can make use of the instances of artificial intelligence:  • Supermarket bar code scanners.  • Web search engines.  • Voice-activated telephone menus.  • Internet routing algorithms that respond dynamically to the state of the network. | 7 | **HOTS** | **1** |
|  |  | (ii) | “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? | 7 | **HOTS** | **1** |
|  |  |  | **(OR)** |  |  |  |
|  | (b) | (i) | Assume that you are asked to identify a suitable agent for automated assembly line of a motorcycle production plant. In this regard, you have to analyze the environment to identify its nature based on various properties present in it. How can you identify the type of environment? | 7 | **HOTS** | **1** |
|  |  | (ii) | Can you suggest a suitable agent program that implements the human feelings perfectly in the automated taxi driving application? | 7 | **HOTS** | **1** |
|  | | | |  |  |  |
| 10. | (a) | (i) | Explain the various properties of the task environment for a crossword puzzle problem? | 7 | **LOTS** | **1** |
|  |  | (ii) | i. Which solution would DFS find to move from node S to node G if run on the graph below?  ii. Which solution would BFS find to move from node S to node G if run on the graph below? | 7 | **HOTS** | **2** |
|  |  |  | **(OR)** |  |  |  |
|  | (b) | (i) | In what way iterative deepening search is advantageous when compared to other search strategies? | 7 | **LOTS** | **1** |
|  |  | (ii) | Answer the following questions about the search problem shown above.   1. What path would breadth-first graph search return for this search problem? 2. What path would uniform cost graph search return for this search problem? 3. What path would depth-first graph search return for this search problem? | 7 | **HOTS** | **2** |
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| **Bloom’s** | **LOTS** | **HOTS** | **Total** |
| **Percentage** | 50 | 50 | 100 |