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| **Vivekanand Education Society’s Institute of Technology, Chembur, Mumbai,**  **Department Of AI and DS,**  **Year:2022-23 (KT)**  **Test No.- 1** |
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| **Class : Third Year** | **Division: D11AD** |
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| **Semester :V** | **Subject:Artificial Intelligence** |
| **Date:** | **Time: 1 hr** |

| **Course Outcome** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
| --- | --- | --- | --- | --- | --- | --- |
| **Percentage %** | 13% | 13% | 74% | - | - | - |

| **Q.1** |  | **(Attempt any five of the following)** | **Marks**  **(20)** | **COs** |
| --- | --- | --- | --- | --- |
|  | a) | What is artificial intelligence? | 2M | CO1 |
|  | b) | List all Environment Types and describe any one. | 2M | CO3 |
|  | c) | What do you mean by Problem formulation? Explain by taking suitable examples. | 2M | CO2 |
|  | d) | Differentiate uninformed and informed search strategies.Which one is better and Why? | 2M | CO3 |
|  | e) | Give the initial state, goal test, successor and cost function for tic tac toe game | 2M | CO2 |
|  | f) | Find out PEAS for automated robot for cleaning | 2M | CO1 |
| **Q.2** | a) | Explain Alpha Beta search with an example. | 5M | CO3 |
|  |  | **OR** |  |  |
|  | b) | Define the initial and goal state of the water jug problem. Describe the set of operators using if-then rules. Draw the entire state space graph State best searching algorithm for it | 5M | CO3 |
| **Q.3** | a) | Explain Genetic Algorithms in detail with suitable examples. | 5M | CO3 |
|  |  | **OR** |  |  |
|  | b) | Explain A\* algorithm with example. | 5M | CO3 |

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