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| **Vivekanand Education Society’s Institute of Technology, Chembur, Mumbai,**  **Department Of AI and DS, Year:2023-24 (Odd Sem) Test No.- 1** |
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| **Class : Third Year** | **Division: D11AD** |
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| **Semester :V** | **Subject:Artificial Intelligence** |
| **Date: 6/9/2023** | **Time: 1 hr** |

| **Q.1** |  | **(Attempt any five of the following)** | **Marks**  **(20)** | **COs** |
| --- | --- | --- | --- | --- |
|  | a) | What is intelligence? How do you measure it? | 2M | CO1 |
|  | b) | Develop a PEAS for Chandrayaan 3 Pragya rover agent. | 2M | CO3 |
|  | c) | Articulate heuristic function for the PAC-MAN game. | 2M | CO2 |
|  | d) | Consider AI based game PUBG define environment types for the same | 2M | CO3 |
|  | e) | Select a suitable agent design   1. Writing an intentionally funny story 2. Giving competent legal advice in a specialized area of low | 2M | CO2 |
|  | f) | Determine properties of blind search : depth first search | 2M | CO1 |
| **Q.2** | a) | Explain Alpha Beta search and apply into the graph given below. | 5M | CO3 |
|  |  | **OR** |  |  |
|  | b) | Define the initial and goal state of three missionaries and cannibals problem. Describe the set of operators using if-then rules.  Draw the entire state space graph (include only legal states, that is, states in which cannibals do not outnumber missionaries on either side of the river) . State best searching algorithm for it | 5M | CO3 |
| **Q.3** | a) | Give solution in order to overcome local maxima problem of hill climbing algorithm | 5M | CO3 |
|  |  | **OR** |  |  |
|  | b) | Apply A\* algorithm for solving 8-puzzle problem | 5M | CO3 |

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