

SIC No.-

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Duration: 01:30 Hrs

Total No. of Pages:-01

Full Marks: 25

**1 Answer All**

- a What is the difference between weak AI and strong AI? 1.5
- b What is a search strategy in AI? 1.5
- c What are the various types of constraints in Constraint satisfaction problem? 1.5
- d What is a Local Search Algorithm? 1.5

**2 Answer All**

- a What are the four Dimensions of Artificial Intelligence? Describe each one in details. 3
- b Draw schematic diagram of simple reflex agent. 3
- c What is Backtracking search? Explain with an example. 3

**3 Answer any One**

- a Define State space? Design the state space of “Missionaries and Cannibals Problem”. 5
- b Consider the following agent types, Discuss their PEAS descriptions and mention their task environments and characteristics.(Any TWO) 5
  - a) Medical diagnosis system
  - b) Satellite image analysis system
  - c) Radio active part-picking robot
  - d) Interactive English tutor
  - e) Tennis Player

**4 Answer any One**

- a Describe the “A\* Search” algorithm in step by step detail with explanation of each step. 5
- b Provide a comprehensive explanation of the Hill-Climbing search algorithm, including a detailed discussion of its principles and application. Additionally, illustrate the algorithm's workings by using the n-Queen problem as an example. 5