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Question Paper Code	12258
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**B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023**

Sixth Semester

**Computer Science and Engineering**

**CS8691 - ARTIFICIAL INTELLIGENCE**

(Regulations 2017)

Duration: 3 Hours

Max. Marks: 100

**PART - A (10 × 2 = 20 Marks)**

Answer ALL Questions

- |  | <i>Marks,<br/>K-Level, CO</i> |
|--|-------------------------------|
| 1. State the concept of rationality.                                     | <i>2,K1,CO1</i>               |
| 2. List the properties of environment.                                   | <i>2,K1,CO1</i>               |
| 3. Define random walk in online local search.                            | <i>2,K1,CO2</i>               |
| 4. What is meant by Backtracking Search?                                 | <i>2,K1,CO2</i>               |
| 5. Outline the purpose of Game theory.                                   | <i>2,K1,CO3</i>               |
| 6. What do you mean by stochastic games?                                 | <i>2,K1,CO3</i>               |
| 7. Represent in predicate form “all the children like sweets”.           | <i>2,K2,CO4</i>               |
| 8. Define event calculus and list its properties.                        | <i>2,K1,CO4</i>               |
| 9. Differentiate Reactive Architectures from Deliberative Architectures. | <i>2,K2,CO5</i>               |
| 10. What do you understand by n-gram language model?                     | <i>2,K1,CO5</i>               |

**PART - B (5 × 13 = 65 Marks)**

Answer ALL Questions

- |   |                  |
|---|------------------|
| 11. a) Explain Typical Intelligent Agents with neat block diagram.        | <i>13,K2,CO1</i> |
| <b>OR</b>   |                  |
| b) Outline the applications of Artificial intelligence in various fields. | <i>13,K2,CO1</i> |
| 12. a) Illustrate A* algorithm with an example.                           | <i>13,K2,CO2</i> |
| <b>OR</b>   |                  |
| b) Elaborate on following local search techniques.                        |                  |
| (i) Hill climbing.  | <i>7,K2,CO2</i>  |
| (ii) Simulated annealing.   | <i>6,K2,CO2</i>  |
| 13. a) Illustrate Alpha – Beta Pruning algorithm with an example.         | <i>13,K2,CO3</i> |
| <b>OR</b>   |                  |
| b) Discuss Min-Max algorithm with a suitable example.                     | <i>13,K2,CO3</i> |

14. a) With an example, discuss how resolution can be applied. *13,K2,CO4*

**OR**

b) Explain in detail about forward chaining and backward chaining with an example. *13,K2,CO4*

15. a) Summarize how Agent communication is done in AI. *13,K2,CO5*

**OR**

b) Develop the trust and reputation in multi-agent systems and make an effective analysis over it. *13,K2,CO5*

**PART - C (1 × 15 = 15 Marks)**

16. a) Discuss about information retrieval and information exchange. *15,K2,CO6*

**OR**

b) Explain Speech Recognition concept in detail. *15,K2,CO6*