USN ☐☐☐☐☐☐☐☐☐☐

**22MCA262**

## Second Semester MCA Degree Examination, June/July 2024
## Artificial Intelligence

Time: 3 hrs.                                                   Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.*
*2. M : Marks , L: Bloom's level , C: Course outcomes.*

| | | **Module – 1** | M | L | C |
|---|---|---|---|---|---|
| Q.1 | a. | What is Artificial Intelligence? What are the different task domains in Artificial Intelligence? | 10 | L1 | CO1 |
| | b. | Explain AI Technique with an TIC-TAC-TOE problem. Explain the algorithm and working in detail. | 10 | L3 | CO4 |
| | | **OR** | | | |
| Q.2 | a. | Discuss Hill Climbing Search Method, in detail. | 10 | L2 | CO2 |
| | b. | Discuss problem characteristic in detail, considering example use cases. | 10 | L2 | CO1 |
| | | **Module – 2** | | | |
| Q.3 | a. | Discuss the different approaches in Knowledge Representation. | 10 | L2 | CO1 |
| | b. | Explain the issues in knowledge representation. | 10 | L2 | CO1 |
| | | **OR** | | | |
| Q.4 | a. | Explain predicate logic with suitable example statements. | 10 | L2 | CO3 |
| | b. | Briefly explain Resolution in propositional logic with an algorithm. | 10 | L3 | CO3 |
| | | **Module – 3** | | | |
| Q.5 | a. | Discuss in detail on Frame Based System. | 10 | L2 | CO3 |
| | b. | Explain the forward chaining algorithm in detail. | 10 | L2 | CO3 |
| | | **OR** | | | |
| Q.6 | a. | Discuss the following :<br>i)  Fuzzy logic<br>ii) Bayesian Networks. | 10 | L2 | CO3 |
| | b. | Discuss on Dempster-Shafer theory. Explain what is its application. | 10 | L2 | CO3 |
| | | **Module – 4** | | | |
| Q.7 | a. | Briefly explain the Adaptive learning. | 10 | L1 | CO4 |
| | b. | Explain the STRIPS Planning Algorithm. | 10 | L2 | CO4 |
| | | **OR** | | | |
| Q.8 | a. | What is Learning? Discuss types of Learning, in detail. | 10 | L1 | CO4 |
| | b. | Discuss the K-strip in detail. | 10 | L2 | CO4 |
| | | **Module – 5** | | | |
| Q.9 | a. | Explain the Architecture of Expert System. | 10 | L2 | CO5 |
| | b. | Discuss in detail on Knowledge Acquisition. | 10 | L2 | CO5 |
| | | **OR** | | | |
| Q.10 | a. | Discuss in detail on :<br>i)  Expert System Shell<br>ii) Typical Expert SYSTN-MYCIN | 10 | L2 | CO5 |
| | b. | Discuss key points, advantages , drawbacks with examples wherever needed. | 10 | L2 | CO5 |

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