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18AI55

## Fifth Semester B.E. Degree Examination, June/July 2023 **Principles of Artificial Intelligence**

|  | Tin | ne: 3    | 3 hrs.  | Max. Marks: 100                         |
|--|-----|----------|---|---|
| Se   |     | I        | Note: Answer any FIVE full questions, choosing one full question from ed  | ach module.                             |
| g blank pages.<br>= 50, will be treated as malpractice.  |     |          | Madula 1  |   |
| ıalpı  | 1   | a.       | Explain brief history of artificial intelligence.   | (10 Marks)                              |
| as m   | 1   | b.       | Explain Intelligent systems in AI.  | (10 Marks)                              |
| ted  |     | ٥.       | Emplain interrigent systems in inc.   | (10111111111111111111111111111111111111 |
| trea   |     |          | OR  |   |
| ages<br>1 be   | 2   | a.       | Explain current trends and development of AI.   | (10 Marks)                              |
| uk pë<br>wil   |     | b.       | Describe water Jug problem with production rules and give solution.   | (10 Marks)                              |
| blar<br>50,  |     |          |   |   |
| ing<br>+8=   | _   |          | Module-2  | part for target and the most            |
| nain<br>, 42-  | 3   | a.       | Explain two player perfect information games.   | (10 Marks)                              |
| ren<br>1 eg  |     | b.       | Explain alphabeta pruning with example.   | (10 Marks)                              |
| the<br>itter   |     |          | OR  |   |
| S WI   | 4   | a.       | Explain Iterative deepeing.   | (05 Marks)                              |
| fine   |     | b.       | Write the algorithm for MINIMAX.  | (10 Marks)                              |
| ross   |     | c.       | List the properties of $\alpha$ - $\beta$ pruning.  | (05 Marks)                              |
| or 6   |     |          |   | (                                       |
| agor   |     |          | Module-3  |   |
| ≈ di<br>utor   | 5   | a.       | Write the algorithm for conversion to clause form with example.   | (10 Marks)                              |
| dravalue   |     | b.       | Write the propositional resolution algorithm with example.  | (10 Marks)                              |
| rily<br>o ev   |     |          |   |   |
| ulsc<br>eal t  | (   |          | OR  | (10.7/1-1-1)                            |
| app  | 6   | a.<br>b. | Write the resolution algorithm for predicate logic with example.  Explain semantic tableau system.                | (10 Marks)                              |
| s, co  |     | υ.       | Explain semantic tableau system.  | (10 Marks)                              |
| swer   |     |          | Module-4  |   |
| r ans  | 7   | a.       | Explain non linear planning strategies.   | (10 Marks)                              |
| you<br>fide  |     |          | Explain block world problem.  | (10 Marks)                              |
| ing<br>o gu  |     |          |   |   |
| plet   |     |          | OR  |   |
| con rev  | 8   | a.       | Explain the types of planning system.   | (10 Marks)                              |
| On<br>Any  |     | b.       | Explain means end analysis with example.  | (10 Marks)                              |
| .1 .2  |     |          | Module-5  |   |
| lote   | 9   | 0        | Explain the property inheritance algorithm.   | (08 Marks)                              |
| nt N   | 9   | a.<br>b. | Explain the property innertance argorithm.  Explain simple relation knowledge and procedural knowledge using exam |   |
| Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be |     | υ.       | Explain shiple relation knowledge and procedural knowledge asing exam   | (12 mains)                              |
| Imp  |     |          | OR  |   |
|  | 10  | a.       | Explain 4 approaches to knowledge representation.   | (12 Marks)                              |
|  |     | b.       | Explain expert systems.   | (08 Marks)                              |