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Question Paper Code: 95C04

B.E./B.Tech. DEGREE EXAMINATION, MAY 2024

Sixth Semester

Computer Science and Business Systems

19UCB603-ARTIFICIAL INTELLIGENCE

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5Marks)

1. The action of the Simple reflex agent completely depends upon _____ CO1 U
 - (a) Perception history
 - (b) Current perception
 - (c) Learning theory
 - (d) Utility functions
2. What is state space? CO1 U
 - (b)The whole problem
 - (c) Your Definition to a problem
 - (d)Problem you design
 - (d) Representing your problem
3. Which search strategy is also called as blind search? CO1 U
 - (a) Uninformed search
 - (b) Informed search
 - (c)Simple reflex search
 - (d) All of the mentioned
4. Which of the Following problems can be modeled as CSP? CO1 U
 - (a) 8-Puzzle problem
 - (b) 8-Queen problem
 - (c) Map coloring problem
 - (d) All of the mentioned
5. Which of the following is a refutation complete inference procedure for propositional logic? CO1 U
 - (a) Clauses
 - (b) Variables
 - (c) Propositional resolution
 - (d) Proposition

PART – B (5 x 3= 15 Marks)

6. Explain why problem formulation must follow goal formulation CO1 U
7. List the steps involved in simple problem-solving technique. CO1 U

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| 8. | How does one characterize the quality of a heuristic? | CO1 U | |
| 9. | List out the types of assignment in CSP problem and explain each. | CO1 U | |
| 10. | Write down the basic syntactic elements of first order logic | CO1 U | |

PART – C (5 x 16= 80 Marks)

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| 11. | (a) Explain in detail about the types of agent with neat diagram | CO1 U | (16) |
| | Or | | |
| | (b) Describe in detail about the types of task environment | CO1 U | (16) |
| 12. | (a) Write a short notes on state space representation and explain the terms goal test, path, initial state and successor function | CO1 U | (16) |
| | Or | | |
| | (b) “Production systems determine the course of action in particular situation” – Justify | CO1 U | (16) |
| 13. | (a) Explain in detail about different types of Hill climbing search | CO1 U | (16) |
| | Or | | |
| | (b) Discuss in detail about the various uninformed search strategies | CO1 U | (16) |
| 14. | (a) Explain in detail about Alpha-Beta pruning | CO1 U | (16) |
| | Or | | |
| | (b) Discuss in detail about expert system and give a brief note on MYCIN | CO1 U | (16) |
| 15. | (a) Illustrate first order logic to represent Knowledge with examples | CO1 U | (16) |
| | Or | | |
| | (b) Discuss the problems in resolution using propositional logic and illustrate predicate logic with suitable examples | CO1 U | (16) |