

PRIYADARSHINI COLLEGE OF ENGINEERING, NAGPUR
Department :- Computer Technology Semester :- V Section :- A / B
Session:- 2022-2023 (ODD-SEM)

CAT- 2

Subject :- AI
Duration : 1.5Hrs

Subject Code:- BTCT505T
Max Marks:- 35

Q No 1 Questions M CO BL

For propositional Logic, which statement is false? *

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|-----|--|----------|
| i | a. The sentences of Propositional logic can have answers other than True or False.
b. Each sentence is a declarative sentence.
c. Propositional logic is a knowledge representation technique in AI.
d. None of the above | 1 co3 I |
| ii | First order logic Statements contains _____. *
a. Predicate and Preposition b. Subject and an Object
c. Predicate and Subject d. None of the above | 1 co3 I |
| iii | Differentiate between monotonic and non-monotonic reasoning systems. | 5 co3 II |

OR

Q No 2

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|-----|---|------------|
| i | 1. Which can be converted to inferred equivalent CNF sentence?
a) Every sentence of propositional logic
b) Every sentence of inference
c) Every sentence of first-order logic
d) All of the mentioned | 1 co3 I,II |
| ii | 2. What are Semantic Networks?
a) A way of representing knowledge b) Data Type
c) Data Structure d) None of the mentioned | 1 co3 I,II |
| iii | Describe a script for restaurant. | 5 co3 I,II |

Q No 3

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|-----|--|------------|
| i | Which of the following is an advantage of using an expert system development tool?
a) imposed structure b) knowledge engineering assistance
c) rapid prototyping d) all of the mentioned | 1 co4 I,II |
| ii | Which of the following is not a Characteristics of Expert Systems?
A. Understandable B. Highly responsive
C. Unreliable D. High performance | 1 co4 I,II |
| iii | Compare knowledge based expert system with rule based expert system. | 5 co4 I,II |
| iv | Define expert system shell? Explain architecture of expert system. | 7 co4 I,II |

Q No 4

- A game can be formally defined as a kind of search problem with the following components.
- i a) Initial State b) Successor Function c) Terminal Test d) All of the mentioned 1 co4 I,II

- General algorithm applied on game tree for making decision of win/lose is
- ii a) DFS/BFS Search Algorithms b) Heuristic Search Algorithms c) Greedy Search Algorithms d) MIN/MAX Algorithms 1 co4 I,II

- iii a) Define NLP. Explain the following components of NLP. i) NLU (Natural Language Understanding) ii) NLG (Natural Language Generation) 5 co4 I,II

- iv List the levels of NLP and explain each with suitable example. 7 co4 I,II

Q No 5

- i Artificial neural network is used A) Classification for B) Clustering C) Pattern recognition D) All of the above 1 co5 I,II
- ii ___ is/are the ways to represent uncertainty 1 co5 I,II
- iii A) Fuzzy logic B) Entropy C) Probability D) All of the above Describe different applications of neural networks. 5 co5 I,II
- iv Define : i) Artificial Neural Network ii) Genetic Algorithm. 7 co5 I,II

OR

Q No 6

- i A Neural Network can answer A) For Loop questions B) what-if questions C) IF-The-Else Analysis Questions D) None of the mentioned 1 co5 I,II
- ii Artificial Neural Network is based on which approach? a) Weak Artificial Intelligence approach b) Cognitive Artificial Intelligence approach c) Strong Artificial Intelligence approach d) Applied Artificial Intelligence approach 1 co5 I,II
- iii Explain the following terms:- i) Genes ii) Chromosomes 5 co5 I,II
- iv List the genetic operators and explain each of them with suitable example. 7 co5 I,II

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