SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.
B.Sc.AI - END SEMESTER EXAMINATIONS - NOV'2024
SEMESTER -I

22UAICT1001 -Introduction to Artificial Intelligence

Total Duration : 2 Hrs.30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Illustrate the significance of Alan Turing's work in laying the foundation for artificial intelligence.
2. Classify the various types of learning agents in AI, explaining how they interact with their environment and evolve over time.
3. Apply the concept of implication in propositional logic and relate it to everyday "if...then" statements.
4. Construct and analyse a truth table for a complex logical expression involving conjunction, disjunction, and negation.
5. Analyse the concept of disjunctive syllogism in propositional logic and evaluate why disjunctive syllogism is considered a valid rule of inference in logical reasoning.
6. Determine how common inference rules, such as Universal Instantiation and Existential Generalization, are applied with examples.
7. Interpret the process of goal resolution in Prolog and describe how the inference engine works to find solutions using unification and arithmetic operations.
8. Examine the benefits of using 'cut' to improve efficiency and control.

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. Describe the structure and functioning of a basic artificial neural network, including the role of weights and activation functions.
10. Apply the concept of logical equivalence in propositional logic and relate common logical equivalences, such as De Morgan's laws, to simplifying logical expressions
11. Distinguish between the use of constants and variables in Prolog with examples.
12. Examine how accumulators can be used to process lists in Prolog with example.
13. Assess with example how recursive comparison can be used to compare two ordered lists in Prolog.

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