Question Paper Code	12820

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024
Sixth Semester
Computer Science and Engineering
(Common to Information Technology, M.Tech – Computer Science and Engineering & Computer and Communication Engineering)
20CSPC601– ARTIFICIAL INTELLIGENCE
Regulations - 2020

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks	K–Level	CO
1.	Define the Characteristics of Intelligent Agent.	2	K1	CO1
2.	State Uninformed Search Technique.	2	K2	CO2
3.	Infer Local Search Algorithm.	2	K2	CO2
4.	State Backtracking Search.	2	K2	CO2
5.	Describe Stochastic Game.	2	K2	CO3
6.	Write the applications of Game Playing in AI.	2	K2	CO3
7.	Outline Unification.	2	K1	CO4
8.	State Ontological Engineering.	2	K2	CO4
9.	Identify the use of Planning Graphs.	2	K1	CO5
10.	State Learning using Relevance Information.	2	K2	CO5

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

			Marks	K–Level	CO
11.	a)	i) Explain the core elements in Artificial Intelligence with example.	6	K2	CO1
		ii) Compare the types of Intelligent Agents with its environment functions.	7	K2	CO1

OR

			Marks	K–Level	CO
	b)	i) Explain in detail about the function properties of Depth Limited search with example.	6	K2	CO1
		ii) Describe in detail about the strategy used in A* Algorithm with example.	7	K2	CO1

			Marks	K–Level	CO
12.	a)	Formulate the map coloring problem as a Constraint Satisfaction Problem (CSP).	13	K2	CO2

OR

			Marks	K–Level	CO
	b)	Explain in detail about Hill Climbing Search.	13	K2	CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **12820**

13. a) Describe how alpha-beta pruning enhances the efficiency of the min max algorithm.   *13   K2 CO3*

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OR

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b) Explain in detail about min-max algorithm with an example.   *13   K2 CO3*

14. a) Consider the following statements: *13   K3 CO4*
    All humans are mortal.
    Socrates is a human.
    Therefore, Socrates is mortal.
    Formulate the above statements using First Order Predicate Logic (FOPL).
    Determine the predicates, quantifiers, variables, and logical connectives used in your formulation.

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OR

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b) Articulate the syntax and semantics of FOPL, including constants, variables, predicates, functions, and quantifiers.   *13   K3 CO4*

15. a) Illustrate in detail about the Fast Forward System in Planning State Space Search.   *13   K2 CO5*

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OR

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b) Outline Knowledge in Learning with example.   *13   K2 CO5*

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PART - C (1 × 15 = 15 Marks)

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16. a) Construct the language models commonly used in Natural language processing.   *15   K3 CO6*

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OR

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b) Build syntactic analysis with example.   *15   K3 CO6*

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