Reg. No. :

Question Paper Code: 46203

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Sixth Semester

Computer Science and Engineering

14UCS603 - ARTIFICIAL INTELLIGENCE

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which instruments are used for perceiving and acting upon the environment

    (a) Sensors and Actuators   (b) Sensors

    (c) Perceiver   (d) None of these

2. Which is not the commonly used programming language for AI?

    (a) PROLOG   (b) Java

    (c) LISP   (d) Perl

3. A heuristic is a way of trying

    (a) To discover something or an idea embedded in a program

    (b) To search and measure how far a node in a search tree seems to be from a goal

    (c) To compare two nodes in a search tree to see if one is better than the other

    (d) Only (a), (b) and (c)

4. Which is not a type of First Order Logic (FOL) Sentence?

    (a) Atomic sentences   (b) Complex sentences

    (c) Quantified sentence   (d) Quality Sentence

5. _____ planning checks what is actually happening in the environment at predetermined plans.

    (a) Continuous planning   (b) Replanning

    (c) Multiagent planning   (d) Conditional planning

6. _____ planning checks what is actually happening in the environment at predetermined plans.

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7. A Hybrid Bayesian network contains

    (a) Both discrete and continuous variables
    (b) Only Discrete variables
    (c) Only Discontinuous variable
    (d) Continuous variable only

8. A* algorithm is based on

    (a) Breadth-First-Search   (b) Depth-First –Search

    (c) Best-First-Search   (d) Hill climbing

9. Inductive learning involves finding a

    (a) Consistent Hypothesis   (b) Inconsistent Hypothesis

    (c) Regular Hypothesis   (d) Irregular Hypothesis

10. Automated vehicle is an example of

    (a) Supervised learning   (b) Unsupervised learning

    (c) Active learning   (d) Reinforcement learning

PART - B (5 x 2 = 10 Marks)

11. Define artificial intelligence.

12. Define unification.

13. What are the different types of planning?

14. What is fuzzy logic? What is its use?

15. What is learning? What are its types?

PART - C (5 x 16 = 80 Marks)

16. (a) (i) Explain the goal and model based reflex agents with example.   (8)

      (ii) Prove that the breadth first search is a special case of uniform cost search.   (8)

Or

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(b) Explain the approach of formulation for constraint satisfaction problems with example. (16)

17. (a) (i) Differentiate inference-based agent and the circuit-based agent. (8)

(ii) Explain the steps associated with the knowledge engineering process in first order logic. (8)

Or

(b) (i) Describe forward chaining and backward chaining algorithm. (8)

(ii) Write short note on unification. (8)

18. (a) Explain the concept of planning with state space search using suitable examples (16)

Or

(b) Explain the use of planning graph in providing better heuristic estimation with suitable example. (16)

19. (a) (i) State the Baye's theorem. How is it useful for decision making under uncertainty. (6)

(ii) Explain the method of performing exact inference in Bayesian networks. (10)

Or

(b) Explain the method of performing exact inference in Bayesian networks. (16)

20. (a) (i) Describe decision tree learning algorithm. (8)

(ii) Give the detailed notes the process of explanation based learning with example. (8)

Or

(b) Explain the concept of Reinforcement learning. (16)

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