KUMARAGURU
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B.E DEGREE EXAMINATIONS: APRIL/ MAY 2016

(Regulation 2013)

Sixth Semester

MECHATRONICS ENGINEERING

U13MCE305**:** Artificial Intelligence

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which search agent operates by interleaving computation and action?

    a) Offline search   b) Breadth-first search

    c) Depth-first search   d) Online search

2. The Al researcher who co-authored both the Handbook of Artificial Intelligence and The Fifth Generation is……………..

3. Where do the values of alpha-beta search get updated?

    a) Along the path of search   b) Initial state itself

    c) At the end   d) At the start

4. Which value is assigned to alpha and beta in the alpha-beta pruning……………..

5. Which is also called single inference rule?

    a) Reference   b) Resolution

    c) Reform   d) computation

6. The main component of the expert systems is/are……………..

7. Treatment chosen by doctor for a patient for a disease is based on

    a) Only current symptoms   b) Current symptoms plus some knowledge from the textbooks

    c) Current symptoms plus some   d) Only a and b
        knowledge from the textbooks plus
        experience

8. A Horn clause is a clause with _____ positive literal.

9. Following is an extension of the semantic network.

    a) Expert Systems   b) Decision Tree Based networks

    c) Rule Based Expert Systems   d) Partitioned Networks

10. …………….. Constitutes to the frame structure.

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11. State Baye's theorem.

12. Write the two commitments of logic?

13. What is AI technique?

14. Games explore machine intelligence. Justify.

15. List the various steps in knowledge engineering.

16. What is a frame?

17. What is model based reasoning system?

18. How rule based system used in modern logics?

19. Define monotonicity.

20. What do you mean by certainty factor?

PART C (5 x 14 = 70 Marks)
(Answer not more than 400 words)

Q.No. 21 is Compulsory

21.   Represent the following using predicate logic:
  a) Marcus was a Pompeian.
  b) All pompeians were Romans.
  c) Caesar was a ruler.
  d) Everyone is loyal to someone.
  e) All Romans are either loyal to Caesar or hated him.
  f) Marcus was a man.
  g) Marcus tried to assassinate Caesar.

22. (a) Explain the depth first and breadth first algorithm.

(OR)

(b) Explain A* search algorithm in detail.

23. (a) Minimax procedure is a depth first algorithm. Justify.

(OR)

(b) Describe brief about secondary search.

24. (a) Explain about statistical probabilistic reasoning.

(OR)

(b) Explain the logics for non-monotonic reasoning.

25. (a) Give the Syntax and Semantics of a first order logic in detail with an example.

(OR)

(b) Explain the various forms of learning.

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