

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**B.Tech. Summer 2021 - 22 Examination**

**Semester: 6**  
**Subject Code: 203113355**  
**Subject Name: Artificial Intelligence**

**Date: 29/03/2022**  
**Time: 10:30am to 1:00pm**  
**Total Marks: 60**

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**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Objective Type Questions - ( Fill in the blanks, one word answer, MCQ-not more than Five in case of MCQ) (All are compulsory) (Each of one mark) (15)**

1. The "Father of Artificial Intelligence" is:
  - a) Alan Turing
  - b) Charles Babbage
  - c) John McCarthy
  - d) None of the above
2. Which of the following is the branch of Artificial Intelligence?
  - a) Machine Learning
  - b) Cyber forensics
  - c) Full-Stack Developer
  - d) Network Design
3. Among the given options, which search algorithm requires less memory?
  - a) Optimal Search
  - b) Depth First Search
  - c) Breadth-First Search
  - d) Linear Search
4. The component of an Expert system is \_\_\_\_\_.
  - a) Knowledge Base
  - b) Inference Engine
  - c) User Interface
  - d) All of the above
5. The search algorithm which is similar to the minimax search, but removes the branches that don't affect the final output is known as \_\_\_\_\_.
  - a) Depth-first search
  - b) Breadth-first search
  - c) Alpha-beta pruning
  - d) None of the above
6. Write one of the following heuristic search algorithms name ?
7. Are Neural Networks Helpful in Medicine?
8. Automated vehicle is an example of \_\_\_\_\_.
9. Which search method takes less memory?
10. The first artificial neural network was invented in \_\_\_\_\_.
11. Each connection link in ANN is associated with \_\_\_\_\_ which has information about the input signal.
12. A knowledge-based agent can be defined with \_\_\_\_\_ levels.
13. Components of an expert system are?
14. What is Time Complexity of Breadth First search algorithm?
15. Blind searching is general term form \_\_\_\_\_?

**Q.2 Answer the following questions. (Attempt any three)**

**(15)**

- A) What do you mean by Perceptron?
- B) What is neural network?
- C) What is Fuzzy Logic?
- D) What do you mean by expert system?

**Q.3 A) What is an A\* Algorithm search method?**

**(07)**

B) What do you mean by semantic nets in AI?

**(08)**

**OR**

B) What is artificial intelligence and its application?

**(08)**

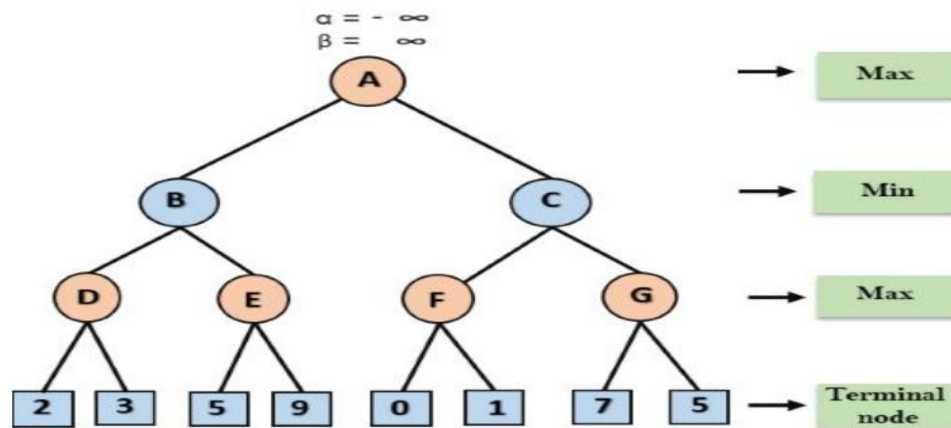
**Q.4 A) What's the difference between supervised and unsupervised learning?**

**(07)**

**OR**

A) What is alpha-beta pruning ? Solve it.

**(07)**



B) What is hill climbing search in Artificial Intelligence? Explain with example.

**(08)**