11:00 am - 02:00 pm

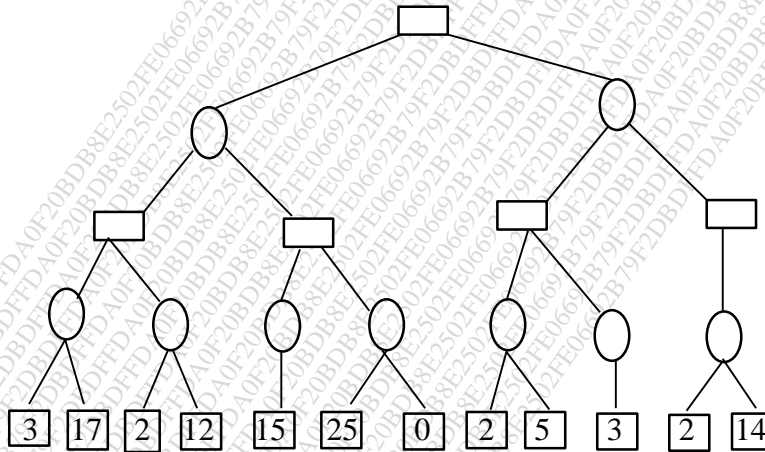Intelligent System   **Q.P. Code :23579**

[Time: Three Hours]   **[Marks:80]**

Please check whether you have got the right question paper.
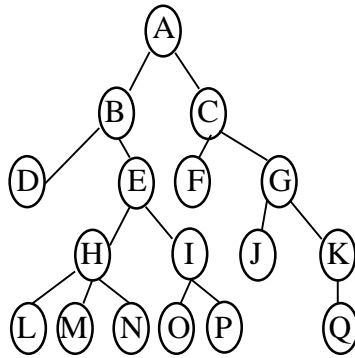
N.B: 1. Question.**No.1** is compulsory.
        2. Attempt any **three** out of remaining five.

Q.1   A) Give the comparison of DFS, BFS, Iterative deeping and Bidirectional search.   04

       B) Solve the given Cryptarithmetic puzzle   04

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       C) Explain modus ponen with suitable example   04

       D) Draw and Explain general model of Learning Agent.   04

       E) Explain the Limitation of propositional logic with suitable example.   04

Q.2   A) Explain Hill climbing and simulated Annealing with suitable example.   10

       B) Explain Goal based and utility based agent with block diagram   10

Q.3   A) Consider the given game tree. Apply $\alpha - \beta$ pruning where □- max node, 0- min node.   10

       B) Explain Rote learning and Inductive learning with suitable examples.   10

Q.4   a) Consider the following sentence   10
       i)   Mammals drink milk
       ii)   Man is mortal
       iii)   Man is Mammal
       iv)   Tom is Man

       Prove that Tom is mortal using modus ponen and Resolution

       b) Draw and explain the expert system Architecture.   10

Page **1** of **2**

Q.5   A) Consider the given tree, apply breadth first search algorithm and also write the order in which   10
nodes are expanded.

B) Write the Planning algorithm for spare tyre problem.   10

Q.6   Write the short note an **any four.**   20
    A) Wumpus world environment
    B) SMA* algorithm
    C) Forward chaining and Backward chaining
    D) Bayes Theorem and conditional probability
    E) Supervised and Unsupervised learning.

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