



Q.P. Code :23579

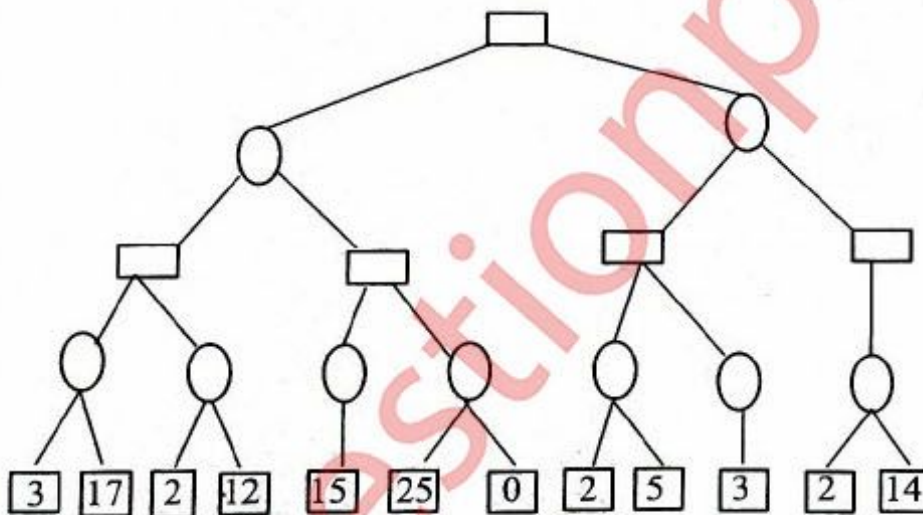
[Time: Three Hours]

[Marks:80]

Please check whether you have got the right question paper.

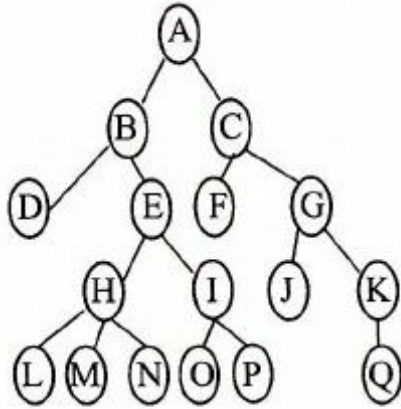
- N.B:
1. Question.No.1 is compulsory.
 2. Attempt any three out of remaining five.

- Q.1
- A) Give the comparison of DFS, BFS, Iterative deeping and Bidirectional search. 04
- B) Solve the given Cryptarithmic puzzle 04
- $$\begin{array}{r} \text{T W O} \\ + \text{T W O} \\ \hline \text{F O U R} \end{array}$$
- C) Explain modus ponem 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 \square - max node, \circ - 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 ponem and Resolution
- b) Draw and explain the expert system Architecture. 10

- 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 on **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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