

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - IV Computer Science & Engineering AI & ML : SUMMER : 2025
SUBJECT: FOUNDATIONS OF ARTIFICIAL INTELLIGENCE

Day : Monday
Date : 02/06/2025

S-23950-2025

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw well labelled diagrams **WHEREVER** necessary.

Q.1 What do you mean by Artificial Intelligence? How it differs from Natural Intelligence? Explain the Turing Test Approach in short. (10)

OR

Q.1 What do you mean by PEAS descriptors? Give PEAS for Part-picking robot. (10)

Q.2 What are the disadvantages of Best First Search? With a suitable example explain A^* algorithm. (10)

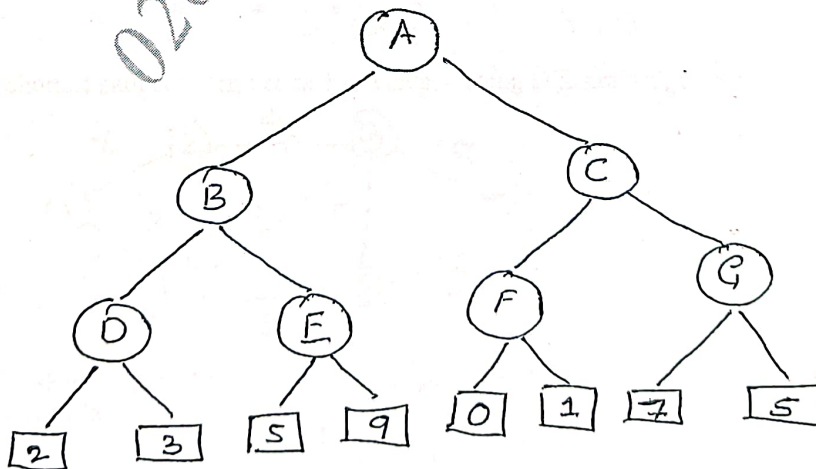
OR

Q.2 What are the disadvantages of Depth First Search (DFS)? With a suitable example explain Iterative Deepening DFS? (10)

Q.3 If $SEND + MORE = MONEY$, find the values of all alphabets if each alphabet represents a single digit from 0 to 9. (10)

OR

Q.3 Apply alpha-beta pruning to solve following game tree. (10)



P.T.O.

- Q.4 Consider following sentences. (10)
- a) Ravi likes all forms of food.
 - b) Banana is a food.
 - c) Chocolate is a food.
 - d) Anything anyone eats and is not killed by is food.
 - e) Shyam eats peanuts and is still alive.
 - d) Sita eats everything Shyam eats.

Prove using backward chaining:
i) Ravi likes chocolates
ii) Sita eats peanuts

OR

- Q.4 Consider following axioms: (10)
- a) Whoever can read is literate.
 - b) Animals are not literate.
 - c) Some animals are intelligent.

Prove "Some who can't read are also intelligent" using resolution technique.

- Q.5 With "wearing shoe" problem, explain partial order planning in detail. (10)

OR

- Q.5 What are disadvantages of Bayesian theory? Explain Dempster Shafer theory. (10)

- Q.6 Draw and describe architecture of Expert System in detail. (10)

OR

- Q.6 What do you mean by Learning by Induction? Explain in detail. (10)

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