



বিদ্যাসাগর বিশ্ববিদ্যালয়  
**VIDYASAGAR UNIVERSITY**

**Question Paper**

**B.Sc. Honours Examination 2022**

(Under CBCS Pattern)

**Semester - VI**

**Subject: COMPUTER SCIENCE**

**Paper: C 13 - T**

**Full Marks : 40**

**Time : 2 Hours**

*Candidates are required to give their answer in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

**ARTIFICIAL INTELLIGENCE**

A. Answer any *four* questions :

5×4=20

1. Why does search in game-playing programs always proceed forward from the current position rather than backward from the goal ?
2. What is unification in the context of first-order predicate logic ? Why is it necessary ? 3+2
3. Using a suitable example, illustrate the states of A\* search. Why is A\* search better than Best-First search ? 3+2
4. What are the components of constraint satisfaction problems ? Explain the CSP problem by taking the example of Map colouring. 2+3

5. Why uncertainty occurs in AI systems ? How probability theory can be applied to solve toothache problem ? 2+3

6. Explain alpha-beta pruning with an example.

B. Answer any *two* questions : 10×2=20

1. Translate the following statements into predicate logic : 5×2=10

(i) John likes all kinds of food.

(ii) Anything anyone eats and is not killed by is food.

(iii) Bill eats peanuts and is still alive.

(iv) Sue eats everything that Bill eats.

(v) A drunker is enemy of himself.

2. Discuss the performance of A\* algorithm when the heuristic function either underestimate or overestimates the value of states.

3. Give the conceptual dependency structure to parse the following sentence : “John wanted Mary to go to the store”. Explain the min-max problem with algorithm. 5+5

4. Write short notes on : Means-end analysis, Turing test.

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