B.Sc. Semester -VI Examination, 2023-24

COMPUTER SCIENCE (Honours)

Course ID : 61511   Course Code : SH/CSC/601/C-13

Course Title : Artificial Intelligence (Theory)

Time: 1 Hour 15 minutes   Full Marks : 25

The figures in the right-hand margin indicate marks.

Candidates are required to give their answer in their

own words as far as practicable

Unit – I

1. Answer any five of the following questions: 1×5

   a) What is artificial intelligence?

   b) What do you meant by universal and existential Quantifier?

   c) What is contradictory sentence?

   d) What is meant by semantics Net?

   e) Translate the sentence – "Mangoes are sweet" into a formula in predicate logic.

   f) What is constraint Satisfaction Problem (CSP)?

   g) Write name of some intelligent systems.

   h) Write one difference between a frame and a script.

Unit – II

2. Answer any two (2) of the following questions: 5x2 = 10

   a) What do you mean by search in AI? Distinguish between informed and uninformed search technique in AI.   2 + 3

[Turn Over]

b) What is FOPL? Write the following expressions in FOPL:

    i) All employees earning $1400 or more per year pay taxes.

    ii) Some employees are sick today.

    iii) No employee earns more than the President.

$$2 + 1\times3 = 5$$

c) What do you mean by knowledge interface? What are the various techniques of knowledge representation in AI? $\qquad 2 + 3 = 5$

d) What is resolution? Write down the algorithm of resolution. $\qquad 1 + 4 = 5$

Unit – III

3. Answer any one (1) of the following questions: $\quad 1\times10 = 10$

a) What is Turing test? Write down the algorithm to build tic-tac-toe in AI? How many possibilities are there in the tic-tac-toe? $\qquad 2+6+2=10$

b) How AI and game theory are related? Write down the properties of min-max algorithm. Compare between the min-max and alpha-beta pruning algorithm.

$$2 + 4 + 4 = 10$$