**BSC (HONS) 6ᵗʰ SEMESTER EXAMINATION-2022**

**Subject: Computer Science**

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

**Course Title: Artificial Intelligence**

**Full Marks: 25**                                **Time-1Hr 15 min**

The figures in the margin indicate full marks

### UNIT-I

1. **Answer any five question from the following:      5x1=5**
   a) Why do we need Artificial Intelligence?
   b) What is constraint Satisfaction Problem (CSP)?
   c) Which domain study Artificial intelligence?
   d) What is meant by semantics Net?
   e) Construct a truth table for the expression$(p \wedge (\sim p \vee q))$
   f) Explain Turing testing in AI?
   g) Translate the sentence" Every man respect his parent" into a formula in First Order predicate Logic (FOPL).
   h) What do we meant by universal and existential Quantifier?

### UNIT –II

2. **Answer any two questions from the following:      2x5=10**
   a) What do you meant by search in AI? Distinguish between informed and uninformed search technique in AI        2+3
   b) What are the limitations of hill climbing algorithm? Write down the difference between simple Hill climbing and Steepest Hill climbing?                                3+2=5
   c) What do you meant by knowledge Interface? What are the various techniques of knowledge representation in AI?    2+3=5
   d) Write the following expression in FOPL:
     i.   Some people who lives in India.
     ii.  Not all students like both mathematics and science.
     iii. Only one student failed in mathematics.

## UNIT-III

3. **Answer any one question from the following:**            **1x10=10**

   a)  What are the usages of BFS and DFS in AI explain with examples? Which algorithm is better between BFS and DFS? What is chronological backtracking?                              5+3+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