Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐          **Total No. of Pages : 02**

**Total No. of Questions : 18**

**B.Tech (CSE)     (Sem.–7)**
## SLLP
**Subject Code : CS-402**
**Paper ID : [A0480]**

**Time : 3 Hrs.**                               **Max. Marks : 60**

**INSTRUCTIONS TO CANDIDATES :**
 1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
 2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
 3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

### SECTION-A

**Write briefly :**

1. What do you understand by syntax and semantics?

2. Differentiate between prepositional and Predicate Logic

3. Explain recursion with an example.

4. Explain Fuzzy logic.

5. Difference between Existential and Universal quantifier.

6. Explain First order Logic.

7. What are Horn Clauses in Prolog?

8. State the advantage of horn clause.

9. What do you mean by Resolution?

10. Differentiate between induction and recursion.

**SECTION- B**

11.    Differentiate between cut and negation.

12.    How would knowledge using Propositional Logic.

13.    In context of propositional logic define the following :

a) Literals

b) Well - formed formulae

14.    Write a program to find factorial of a numbers using Prolog.

15.    Prove the following equivalences using truth tables.

$$\neg(P \vee (\neg P \wedge Q)) \equiv (\neg P \wedge \neg Q)$$

**SECTION-C**

16.    Discuss various Learning methods in Neural Network.

17.    Discuss the importance of Horn Clause in logic programming.

18.    Write a note on :

a) Neural Networks

b) SLD Tree.