

**B. Sc. (IT) Part I Semester-I**  
**Paper VI**  
**Applied Mathematics - I**

**UNIT- I:**

Propositional Calculus:

Connectives, Negation, conjunction, Disjunction, statement formulas and truth tables, conditional and Bi-conditional, well formed formulas, Tautologies, Equivalence of formulas, duality law, Tautologies implications, Functionally complete set of, other connectives,

**UNIT- II:**

Disjunctive normal forms, connective normal forms, Principal disjunctive normal form, Principal conjunctive normal form.

**UNIT- III:**

Predicate Calculus:

The theory of Inference for statement Calculus, validity using truth tables, Rules of inference, consistency of premises and indirect method of Proof

**UNIT- IV:**

The statement function, variables and quantifier, Predicate formulas, Free and Bound variables, The universe of Discourse, Theory of inference for predicate calculus.