Reg. No. : ....

Name : ....

I Semester M.A. Degree (CBCSS – OBE – Regular) Examination, October 2023
(2023 Admission)
PHILOSOPHY
MAPHL01C04 : Symbolic Logic

Time : 3 Hours   Max. Marks : 60

PART – A

Answer **any five** questions. **Each** question carries **three** marks.

1. Define formal proof of validity.

2. Explain Soundness and Cogency.

3. Describe Simple and Compound proposition along with examples.

4. Explain Logical Equivalence.

5. Briefly explain Modus Ponens and Modus Tollens.

6. Examine Generalization and Instantiation.   (5×3=15)

PART – B

Answer **any three** questions. **Each** question carries **six** marks.

7. Symbolize the following Propositions. In each case use the suggested notation and make the symbolic formula parallel in the English as closely as possible.

   a) If anything is damaged, someone will be blamed. (Dx: x is damaged. Px: x is a person. Bx: x is blamed.)

   b) If any officer is present, then either no major are present or he is a major. (Ox: x is an officer. Px: x is present. Mx: x is a major)

P.T.O.

8. Examine Symmetrical, Asymmetrical and Non-symmetrical relations with examples.

9. Discuss the nature of Singular and General Propositions.

10. Construct formal proof of validity of the following argument.

    $A \supset \sim (B \supset C)$

    $(D \cdot B) \supset C$

    D

    $\therefore \sim A$

11. Symbolize the following argument using the suggested notations in each case and construct the formal proof of validity by the method of conditional proof.

    If you plant tulips, then your garden will bloom early, and if you plant asters, then your garden will bloom late. So if you plant either tulips or asters, then your garden will bloom either early or late. (T, E, A, L).   (3×6=18)

PART – C

Answer **any three** questions. **Each** question carries **nine** marks.

12. Elaborate the notion Truth functional compound statement and bring out the features all Truth functionally compound statements along with their truth tables.

13. Construct formal proof of validity of the following argument by the method of Indirect Proof.

    $(V \supset \sim W) \cdot (X \supset Y)$

    $(\sim W \supset Z) \cdot (Y \supset \sim A)$

    $(Z \supset \sim B) \cdot (\sim A \supset C)$

    $V \cdot X$

    $\therefore \sim B \cdot C$