M. A. PHILOSOPHY

(MAPY)

Term-End Examination

June, 2023

MPYE-001 : LOGIC

Time : 3 Hours   *Maximum Marks : 100*

Note : (i)   Answer all the **five** questions.

(ii)   All questions carry equal marks.

(iii)   Answers to Question Nos. **1** and **2** should be in about **500** words each.

1. Analyze the nature and kinds of Dilemma. State the ways of avoiding Dilemma.   20

Or

Define Quantification. Explain the rules of Quantification with its symbols in detail.   20

2. Explain the truth values of conjunction, disjunction and implication with their truth tables.   20

Or

Explain the kinds of Reasoning. State the arguments for Deduction and Induction.   20

3. Answer any **two** of the following questions in about **250** words each :   10 each

(a) Give an account of fallacies of presumption.

(b) Construct proofs of validity for the following arguments :   10

(I) (i) $(x)[(Px \Rightarrow Qx)]$

    (ii) $(\exists x)[(Rx \wedge Px)]$

    $\therefore$ $\exists x[(Rx \wedge Qx)]$

(II) (i) $(\exists x)[(\sim Ax \Rightarrow Bx) \wedge \sim Kx \Rightarrow \sim Jx)]$

    (ii) $(x)[\sim Lx \Rightarrow \sim (Kx \wedge Ax)]$

    (iii) $\sim Lx$

    $\therefore$ $(\exists x)[(\sim Qx \wedge \sim Rx)]$

(c) Test the validity or invalidity of the following argument by Venn Diagram method : 10

Some intelligent persons are doctors.

Some scientists are intelligent.

∴ All scientists are doctors.

(d) Explain the Figure and Mood method of validating categorical syllogism. 10

4. Answer any *four* of the following questions in about **150** words each : 5 each

(a) Explain mixed hypothetical syllogism.

(b) Prove the following argument using the method of derivation by substitution :

(∃x)[(~Mx ⇒ Nx) ∧ (Px ⇒ Tx)]

(X) [(Nx ∧ Tx) ⇒ Lx]

~ Lx /

∴

(∃x) ~ (~ Mx ∧ ~ Px)

(c) Draw the truth tables for NOR and NAND gates.

(d) Describe Tautology with an example.

(e) Distinguish between connotation and denotation.

(f) Explain the difference between conversion and obversion.

5. Write short notes on any *five* of the following in about **100** words each : 4 each

(a) Copula

(b) Multiply General Propositions

(c) Fallacy of Equivocation

(d) Square of Opposition

(e) Distribution of Terms

(f) Argument from Ignorance

(g) Fuzzy Logic

(h) Truth and Validity