63/2 (SEM-1) PHL 703C

2021

(held in 2022)

PHILOSOPHY

(Theory Paper)

Paper Code : PHL-703C

(Formal Logic – I)

Full Marks – 80

Time – Three hours

The figures in the margin indicate full marks
for the questions.

1. Choose the correct one :   1×6=6

(a) Symbolic form of the proposition. If it is false that James is drinking then John is not eating.

  (i) $\sim p \supset \sim q$ (ii) $\sim (p \supset \sim q)$

  (iii) $\sim p \supset q$ (iv) $p \supset \sim q$

[Turn over

(b) An argument is valid when

    (i) premises are true and conclusion is false.

    (ii) premises are true and conclusion is true.

    (iii) premises are false and conclusion is false.

    (iv) premises are false and conclusion is true.

(c) Rules of Replacement has

    (i) 9 rules   (ii) 19 rules

    (iii) 10 rules   (iv) 1.6 rules

(d) Which is Union ?

    (i) $\supset$ (ii) $\cap$

    (iii) $\neq$ (iv) $\cup$

(e) The purpose of Axiomatic Method is

    (i) to enable us to distinguish truth-functional expression from tautologies.

    (ii) to deduce propositions (theorems) from a number of propositions (postulates).

    (iii) to prove the invalidity of argument.

    (iv) to distinguish between predicate logic and propositional logic.

(f) General proposition is concerned

    (i) Propositional logic

    (ii) Symbolic logic

    (iii) Modern logic

    (iv) Predicate logic.

2. Answer the following questions :   2×5=10

    (a) What is truth-function ?

    (b) What is the condition to prove the invalidity of argument ?

    (c) What do you mean by set ?

    (d) What is propositional logic ?

    (e) What is Rules of Syntax ?

3. Answer any *six* of the following questions :
    5×6=30

    (a) What do you mean by truth and validity ?

    (b) What is tautology ? Show it with example.

(c) Indicate any five rules of Rule of Replacement.

(d) Construct a formal proof of validity of the following example :

$P \supset Q$

$\sim Q \lor R$

$\therefore \sim R \supset \sim P$

(e) Translate the following propositions with set notations :

(i) All Americans are philosophers.

(ii) Some Americans are not philosophers.

(f) What do you mean by inclusion ?

(g) What is consistency ?

(h) What is independence ?

(i) What is the difference between deductive and inductive logic ?

4. Answer any *two* of the following questions :

10×2=20

(a) What is argument ? Distinguish between argument and argument form.

(b) Discuss the method to prove the invalidity of argument.

(c) Explain the rule of conditional proof with example.

5. Answer any *one* of the following questions :

14×1=14

(a) What do you mean by Venu diagram ? Explain the method with example.

4+10=14

(b) What is truth-table ? Explain the basic truth-functions with truth-table.   4+10=14