

2013

PHILOSOPHY

(Major)

Paper : 1.1

(Logic—I)

Full Marks : 80

Time : 3 hours

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

1. Answer as directed : 1×10=10

- (a) What is the ideal of logic?
- (b) State the name of the logician who is associated with the statement "The study of logic, then, is the study of the methods and principles used in distinguishing correct (good) from incorrect (bad) arguments."
- (c) The validity of an argument does not guarantee the truth of its conclusion. Is it true?
- (d) Fill in the blank :
The truth or the falsity of a proposition is called —.

(2)

- (e) Under what condition, a conjunctive function becomes true?
- (f) Is truth table method a decision procedure?
- (g) How many kinds of propositions are there according to the modern classification of propositions?
- (h) How many forms of simple proposition are there?
- (i) A disjunctive proposition is true in case of one or the other or both disjuncts are true. Do you agree?
- (j) Who is the pioneer of the concept of set?

2. Answer very briefly :

2×5=10

- (a) What are the two conditions that an argument must satisfy to establish the truth of its conclusion?
- (b) What is a truth function?
- (c) What do you mean by a proposition in modern logic?
- (d) Give an example of a set.
- (e) What is an empty or null set?

3. Answer briefly :

5×4=20

- (a) What are various logical constants?
- (b) Write a short note on propositional variables.

Or

Explain briefly tautologous, contradictory and contingent statements.

- (c) Distinguish between subject-predicate proposition and class-membership proposition.

Or

Distinguish between disjunctive proposition and alternative proposition.

- (d) What do you mean by membership of set?

Or

What do you know about intersection of sets?

4. What is logic? Bring out the nature of logic. 10

Or

What is an argument? Explain the relation between argument and argument form. 5+5=10

5. Explain the nature of negative and implicative truth functions with examples, giving truth table for each of them. 5+5=10

Or

Use truth tables to characterize the following as tautologous, contradictory or contingent :

5+5=10

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

(ii) $(p \supset \sim p) \cdot (\sim p \supset p)$

6. Explain the distinction between simple, compound and general propositions with suitable examples of each kind.

10

Or

Examine the modern classification of propositions.

7. Explain the following operations on sets :

5+5=10

(a) Union of sets

(b) Difference of sets

Or

Explain how are the traditional AEIO propositions symbolized by using set notations and give suitable examples.

10
