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63/1 (SEM-5) DSE1/PHLHE5016

2023

PHILOSOPHY

Paper : PHLHE5016

(Philosophy of Logic)

Full Marks : 80

Pass Marks : 32

Time : Three hours

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

1. Choose the correct answer : **(any six)**

1×6=6

(a) An inductive argument is concerned with

(i) Formal truth

(ii) Material truth

(iii) Both formal and material truth

(iv) Informal truth

Contd.

- (b) Formal logic deals with
- (i) Deductive reasoning and the validity of the inferences produced
 - (ii) Inductive and deductive reasoning
 - (iii) Works entirely in symbols that represent inferences
 - (iv) Invalid reasoning
- (c) The logical connective word is
- (i) scarcely
 - (ii) ought to
 - (iii) neither-nor
 - (iv) either-or
- (d) P. F. Strawson published his first book, *An Introduction to Logical Theory* in
- (i) 1953
 - (ii) 1952
 - (iii) 1959
 - (iv) 1982

- (e) A conjunctive truth function (p.q.) is true under the condition
- (i) if both the variables are true
 - (ii) if both the variables are false
 - (iii) if one of the both variables is true
 - (iv) if one of the both variables is false
- (f) What is the ideal of logic ?
- (i) Reality
 - (ii) Beauty
 - (iii) Good
 - (iv) Truth
- (g) The name of the symbol ' \supset ' is called
- (i) curl
 - (ii) vel
 - (iii) horseshoe
 - (iv) dot

(h) is known as the father of formal logic.

(i) Aristotle

(ii) Frege

(iii) George Boole

(iv) Socrates

(i) The calculus of propositions or propositional logic is also known as

(i) Predicate logic

(ii) Formal logic

(iii) Sentential logic

(iv) Informal logic

(j) According to P. F. Strawson, the truth functional statement is

(i) an ideal system

(ii) an interpreted system

(iii) a coherent system

(iv) a general system

2. Answer the following questions : **(any five)**
2×5=10

(a) What is first order logic ?

(b) What is free variable ?

(c) What is truth table method ?

(d) What do you mean by inductive reasoning ?

(e) Write the entailment of the statement given below :

“X is a younger son.”

(f) Define tautologous statement.

(g) What do you mean by Bioconditional function ?

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

(a) Mention *any five* characteristics of a deductive reasoning.

(b) Write a short note on second order vocabulary.

(c) Distinguish between logical constant and propositional variable.

(d) Write a short note on ‘generality’.

(e) Write a short note on ‘logical form’.

- (f) Give a brief account of symbolizing our everyday language.
- (g) Give a brief account of Inter-definability of truth functions.
- (h) Explain in brief about the nature of reasoning.
- (i) Briefly write about the nature of philosophy of logic.
- (j) Give a brief account of the axiomatic system.

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

$$10 \times 2 = 20$$

- (a) Construct truth table of the following compound expressions and determine whether they are tautologies, contradictory and contingent :

$$5 + 5 = 10$$

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

(ii) $\{(p \supset q)\} \cdot \sim q \supset \sim p$

- (b) What is truth function? Explain the basic truth functions with the help of truth tables.
- $$2 + 8 = 10$$
- (c) "Truth table method is a decision procedure." Discuss.

- (d) What do you mean by inconsistency? What are the different types of inconsistency? Explain with suitable examples.

5. Answer the following questions : (**any one**)

$$14 \times 1 = 14$$

- (a) Discuss P. F. Strawson's refutation of identification of logical constants with ordinary words.
- (b) Discuss the deductive system of truth function.
- (c) Explain the procedure for the determination of the validity or invalidity of arguments.