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(Held in 2023)

PHILOSOPHY

Paper : PHLHE5016

(Philosophy of Logic)

Full Marks : 80

Pass Marks : 32

Time : 3 hours

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

1. Choose the correct answer : 1×6=6

   (a) A deductive argument is concerned with

      (i) formal truth only

      (ii) material truth only

      (iii) Both formal and material truth

      (iv) None of the above

   (b) Logically necessary statements are

      (i) synthetic statement

      (ii) analytic statement

      (iii) Both synthetic and analytic statement (sent

      (iv) Neither synthetic nor analytic statement

(c) The book authored by P. F. Strawson is

   (i) *Introduction to Symbolic Logic*

   (ii) *Introduction to Logic*

   (iii) *Introduction to Logical Theory*

   (iv) *Introduction to Formal Logic*

(d) An implicative truth function $(p \supset q)$ is false under the condition of

   (i) if both the variables are true

   (ii) if both the variables are false

   (iii) if the antecedent variable is true and the consequent variable is false

   (iv) if the consequent variable is true and the antecedent variable is false

(e) According to Strawson, the truth-functional statement is

   (i) an interpreted system

   (ii) an ideal system

   (iii) a coherent system

   (iv) None of the above

(f) According to Strawson, the task of a formal logician is limited by

   (i) generality

   (ii) logical form

   (iii) system

   (iv) All of the above

(Continued)

2. Answer the following questions : $2 \times 5 = 10$

(a) What is 'Second Order Vocabulary'?

(b) What are the variables?

(c) Write the entailment of the statement : 'X is a younger son'.

(d) Define contradictory statement.

(e) What does the word 'theorem' mean in logic?

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

(a) Distinguish between inductive and deductive reasoning.

(b) How many logical constants are there in propositional calculus? Write their names with symbols.

(c) Briefly write about the nature of philosophy of logic.

(d) Write a short note on 'generality'.

(e) What is truth function? Explain the basic truth functions with their truth tables.

(f) Explain the concept of 'system' in the light of Strawson.

(g) Explain in brief about the nature of formal logic.

(Turn Over)

(h) What are the three rules of derivation? Define each one of them.

(i) Briefly write about the nature of reasoning.

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

10×2=20

(a) Construct truth table of the following compound expressions and determine whether they are tautologies, contradictory and contingent :   5+5=10

(i) $(p \vee q) \cdot (p \equiv q)$

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

(b) What is deductive system of truth function? Explain in brief.   3+7=10

(c) Explain interdefinability of logical constants with the help of truth table.

5. Answer any *one* of the following questions :   14

(a) How does P. F. Strawson refute the identification of logical constants with ordinary words? Discuss.

(b) Explain truth table method as a method of testing the validity of argument.

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