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63/1(SEM-5) DSE1/PHLHE5016

2024

PHILOSOPHY

Paper : PHLHE 5016

(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 option (*any six*): 1×6=6
- (a) A deductive argument is associated with
- (i) formal truth
 - (ii) material truth
 - (iii) both formal and material truth
 - (iv) informal truth
- (b) The number of basic truth-function is
- (i) 3
 - (ii) 4
 - (iii) 5
 - (iv) 6

(c) "The Mathematical Analysis of Logic" is associated with

- (i) Berthond Russell
- (ii) George Brok
- (iii) A.N. Whitehead
- (iv) W.V. Guine

(d) P.F. Strawson is associated with

- (i) Formal Logic
- (ii) The Mathematical Analysis of Logic.
- (iii) The princivia Mathematics
- (iv) An Introduction to Logical Theory.

(e) A disjunctive truth-function is false when

- (i) both the components are take
- (ii) both the components are true
- (iii) both the components have same truth-value.
- (iv) one component is true another is false

(f) Logic deals with

- (i) Reality
- (ii) Beauty
- (iii) Good
- (iv) Truth

(g) Aristotle is associated with

- (i) traditional logic
- (ii) modern logic
- (iii) symbolic logic
- (iv) mathematical logic

(h) The name of symbol 'V' is called

- (i) curl
- (ii) three bar
- (iii) dot
- (iv) vel

(i) Truth-functional statement is associated with

- (i) an ideal system
- (ii) an interpreted system
- (iii) a cohent system
- (iv) a general system

(j) Modern logic can be classified into

- (i) 2 types
- (ii) 3 types
- (iii) 4 types
- (iv) 5 types

2. Answer the following questions(*any five*): $2 \times 5 = 10$

- (a) What is second order vocabulary?
- (b) What do you mean by deductive reasoning?
- (c) What is bound variable?
- (d) What is truth-function?
- (e) What is contradictory statement?
- (f) What is disjunctive function?
- (g) What do you mean by formal logic?

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

- (a) Write a short note on inductive reasoning.
- (b) Write a note on first order vocabulary.

- (c) Distinguish between propositional logic and predicate logic.
- (d) Write a short note on logical appraisal.
- (e) What is logical system?
- (f) What is logical constant?
- (g) What do you mean by philosophy of logic?
- (h) Distinguish between Philosophy of logic and Philosophical logic.
- (i) Construct truth-table for tautologies and contingent expression.
- (j) Write a brief account of logical reasoning.

4. Answer *any two* of the following: 10×2=20

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

(i) $\square \{(P \supset Q) \cdot (Q \supset P)\}$

(ii) $(\square P \supset Q) \equiv (\square Q \supset \square P)$

- (b) What are the factors in formal logic? Give in detail.
- (c) Discuss the concept of generality in formal logic.
- (d) What is deductive system of truth-function? Discuss briefly.

5. Answer *any one* of the following: 14×1=14

- (a) Discuss inconsistency as logical appraisal.
- (b) What is argument? Discuss 'Reductio-Ad-Absurdum' is the method to test the validity of argument.
- (c) What are the conditions of axiomatic system? Discuss in detail.