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1 SEM TDC PHIH (CBCS) C 2

2021

(Held in January/February, 2022)

PHILOSOPHY

(Core)

Paper : C–2

(Logic)

Full Marks : 80

Pass Marks : 32

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Answer the following : 1×8=8

   (a) Is logic concerned with direct knowledge?

   (b) What type of relation makes inference possible?

   (c) Name the term which is present in both the premises but absent in the conclusion.

   (d) How many moods are there in the Third figure of syllogism?

(e) When the truth value of p is true and q is false, then what will be the truth of $(p \supset q)$?

(f) Who is the pioneer of the concept of set?

(g) How many rules of inference are applied in the formal proof of validity?

(h) What is the sign of existential quantifier?

2. Write short notes on (any *four*) : 5×4=20

(a) Argument form

(b) Truth and validity

(c) Figure of syllogism

(d) Indirect truth table method

(e) General proposition

3. Define logic. Discuss the nature of logic. 2+11=13

Or

What do you mean by opposition of proposition? Express opposition of proposition with the help of diagram (square). 8+5=13

(Continued)

4. What is categorical syllogism? Explain the chief characteristics and structure of standard form of categorical syllogism. 3+5+5=13

Or

What is Venn diagram? Explain E proposition with the help of Venn diagram. Test the validity of the following syllogistic forms by means of Venn diagram : 2+2+3+3+3=13

(a) EAO in 1st figure

(b) AOO in 2nd figure

(c) IAI in 3rd figure

5. What do you mean by truth table? Construct truth table for the following and find out whether they are tautology, contingent or contradictory : 2+2+3+3+3=13

(a) $(p \supset \sim p) \vee \sim p$

(b) $(p \cdot q) \supset \sim (\sim p \vee q)$

(c) $\{(p \supset q) \cdot p\} \supset q$

(d) $p \supset [(\sim r \supset \sim p) \supset (p \cdot q)]$

Or

What is set theory? Discuss the different kinds of set with suitable examples. 3+10=13

6. State the rules of inference and construct formal proof of validity of the following : 7+3+3=13

(a) (i) $p \supset q$

(ii) $B \supset C$

(iii) $\sim C \; / \therefore \sim A \vee D$

(b) (i) $(A \vee B) \supset C$

(ii) $(C \vee D) \supset E$

(iii) $D \vee A$

(iv) $\sim D \; / \therefore E$

Or

Define singular proposition with example. Symbolize the following propositions using quantifiers : 3+(2×5)=13

(a) All humans are moral.

(b) Nothing is permanent.

(c) Tiger exists.

(d) Some students are not intelligent.

(e) Some people are honest or wise.

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