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1 SEM TDC PHIH (CBCS) C 2

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(Nov/Dec)

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. Find out the correct answer : 1×8=8

- (a) Validity of an argument is concerned with the content of the argument / form of the argument.
- (b) When subject and predicate are same, the relation between A and O proposition is known as contrary / contradictory opposition.
- (c) 'DISAMIS' is a valid mood of the Third / Fourth figure.

- (d) The subject of the conclusion of a syllogism is called major term / minor term.
- (e) When the truth-value of p is true and q is false, the truth-value of $p \vee q$ is true / false.
- (f) The set which has no member is called finite set / null set.
- (g) 'Commutation' is a kind of rule of inference / rule of replacement.
- (h) The symbolic expression of the phrase 'given any X ' is $(X) / (\exists x)$.

2. Write short notes on any *five* of the following :

4×5=20

- (a) Square of opposition
- (b) Variable and logical constant
- (c) Subset
- (d) Structure of categorical syllogism
- (e) Propositional function
- (f) Universal quantifier

3. Define argument. Explain the relation between argument and argument form.

3+10=13

Or

What do you mean by validity of argument?
Explain the relation between truth and validity
with appropriate examples. 3+10=13

4. What is figure of syllogism? Explain the
different kinds of figure of syllogism with
proper symbolic form. 3+10=13

Or

Symbolize *O* proposition with the help of Venn
diagram. Test the validity of the following
syllogistic form by means of Venn diagram :
1+3×4=13

- (a) *AI* in the First figure
 - (b) *EIO* in the Second figure
 - (c) *AEE* in the Third figure
 - (d) *AOO* in the Fourth figure
5. Name the basic truth functions. Construct
truth-table for the following and find out
whether they are tautology, contradictory or
contingent : 2+2+3+3+3=13

- (a) $p \supset (p \supset p)$
- (b) $p \supset (\sim p \cdot \sim q)$
- (c) $(\sim p \supset q) \equiv (\sim q \supset \sim p)$
- (d) $(p \supset q) \vee [(\sim p \cdot q) \supset r]$

Or

What is operation on sets? Explain three operations on set with examples. $2+11=13$

6. Name any five rules of inference with appropriate symbolic expression and construct formal proof of validity of the following : $5+4 \times 2=13$

- (a) 1. $A \supset B$
2. $B \supset C$
3. $C \supset D$
4. $\sim D$
5. $A \vee E / \therefore E$

- (b) 1. $(C \cdot D) \supset \sim F$
2. $(B \supset D) \cdot (A \supset C)$
3. $B \cdot A$
4. $C / \therefore \sim F$

Or

Name the rules of quantification. Symbolize the following propositions using quantifiers : $3+2 \times 5=13$

- (a) Lion exists
(b) Everything is movable
(c) All bananas and mangoes are sweet
(d) Most of the students are intelligent
(e) No human are perfect

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