5 SEM TDC PHI M 2

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(March)

PHILOSOPHY

(Major)

Course : 502

[Logic (Western)]

Full Marks : 80

Pass Marks : 32/24

Time : 3 hours

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

1. Find out the correct answer :   1×8=8

   (a) Ideogram stands directly / indirectly for concept.

   (b) If the truth-value of p is true and q is false, the truth-value of $p \supset q$ is true / false.

   (c) 'Celarent' is a valid mood of first / second figure.

   (d) Distribution is a rule of inference / rule of replacement.

16-21/263   (*Turn Over*)

(e) In quantification, "given any X" is symbolised a (X) / $(\exists x)$.

(f) The method of agreement is regarded as a method of discovery / method of proof.

(g) Two propositions are said to be contraries / contradictories, if they cannot both be true.

(h) According to Stebbing, hypothesis is of two / three kinds.

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

$4 \times 4 = 16$

(a) Sound argument

(b) Nature of logic

(c) Structure of syllogism

(d) General proposition

(e) Stages of hypothesis

3. What is a compound proposition? Explain the different kinds of compound proposition. $2 + 9 = 11$

Or

"Classical logic is related to Symbolic logic as embryo to adult organism." Discuss. 11

4. What is syllogism? Explain the general rules of standard form of categorical syllogism. 2+10=12

Or

Test the validity of the following syllogistic forms by means of a Venn diagram : 3×4=12

(a) AEE in the first figure

(b) EIO in the second figure

(c) EAO in the third figure

(d) AAI in the fourth figure

5. Construct truth table for the following and find out whether they are tautologies, contradictories or contingent expressions : 2+2+2+2+3=11

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

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

(c) $(\sim p \supset q) \supset (\sim q \supset p)$

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

(e) $\sim [(p \supset q) \vee (q \supset r)]$

Or

Construct formal proofs of validity of the following : 5½×2=11

(a) $(M \vee N) \supset (O \cdot P)$
   $M / \therefore O$

(Turn Over)

(b) $W \supset X$

$(W \supset Y) \supset (Z \vee X)$

$(W \cdot X) \supset Y$

$\sim Z \ / \therefore X$

6. Explain and illustrate the symbolization of traditional categorical proposition in quantification theory. 11

Or

Symbolize the following propositions using quantifiers :

2+2+2+3+2=11

(a) Everything is perfect.

(b) Few students are modest.

(c) No squares are circles.

(d) All politicians are either rich or foolish.

(e) Many men are honest.

7. State and explain with example Mill's method of difference. 11

Or

What is hypothesis? Discuss the conditions necessary for a valid hypothesis. 2+9=11

★ ★ ★