

U.G. 4th Semester Examination 2022

PHILOSOPHY (Honours)

Paper Code : (402-PHIH) DC 9

Western Logic - II

Full Marks : 32

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Section - I

Answer any *one* question of the following :

16×1=16

1. Construct formal proof of validity of the following :

(a) $(N. O) \supset P$

$(\sim p \supset \sim O) Q$

$\therefore N \supset Q$

(b) $(.H \vee I) \supset [J. (K. L)]$

I

$\therefore J.K$

(c) $(x) (Ax \supset \sim Bx)$

$(\exists x) (Cx. Ax)$

$\therefore (\exists x) (Cx. \sim Bx)$

(d) None but the brave deserve the fair. Only soldiers are brave. Therefore the fair are deserved only by soldiers. (Dx, Bx, Sx)

2. Test the validity or the invalidity of the following arguments with the help of truth-tree method.

4×4

(a) $\frac{A \leftrightarrow B}{A \vee B}$

$A \vee B$

$A \& B$

(b) $A \rightarrow B$

$B \rightarrow C$

$\frac{C \rightarrow D}{A \rightarrow D}$

$A \rightarrow D$

P.T.O.

- (c) We shall fish if it rains, and we shall swim if it does not. So, we shall fish or swim.
- (d) If Holmes has bungled or Watson is windy, Moriarty will escape. Therefore Moriarty will escape unless Holmes bungled.
3. Explain the joint method of agreement and difference with the help of symbolic and concrete examples. Is it a method of discovery? Discuss. 12+4

Section - II

4. Answer any *one* question of the following : 8×1=8
- (a) Use truth table to determine the validity or invalidity of the following arguments. 4+4
- (i) $(C \vee D) \supset (C \cdot D)$
 $\sim (C \cdot D)$
 $\therefore \sim (C \vee D)$
- (ii) $Q \vee (R \cdot \sim R)$
 Q
 $\therefore \sim (R \cdot \sim R)$
- (b) Explain the concept of ad hoc hypothesis with examples. 8

Section - III

5. Answer any *four* questions of the following : 2×4=8
- (a) What is substitution instance?
- (b) Why is truth-tree method a decision procedure?
- (c) What is singular proposition?
- (d) What are the qualitative marks of a cause?
- (e) What do you mean by analogical argument?
- (f) What is meant by a priori theory of probability?
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