2022/TDC/ODD/SEM/PHIDSC/
GE–101T/054

TDC (CBCS) Odd Semester Exam., 2022

PHILOSOPHY

(1st Semester)

Course No. : PHIDSC/GE–101T

(Logic)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

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

UNIT—I

1. Answer any *four* of the following questions :

1×4=4

(a) What kind of science Logic is?

(b) Is logic concerned with formal truth or material truth or both?

(c) Can validity or invalidity be predicated of proposition?

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(Turn Over)

(2)

(d) How many parts does an argument have?

(e) What is a sound argument?

2. Answer any *one* of the following questions : 2

(a) Write two uses of the study of Logic.

(b) What is an argument form?

3. *(a)* What is Logic? Discuss the scope of logic. 2+6=8

Or

(b) What do you mean by the term 'validity'? Distinguish between truth and validity. 2+6=8

UNIT—II

4. Answer any *four* of the following questions :

1×4=4

(a) How many terms are there in a proposition?

(b) Give a symbolic example of particular affirmative proposition.

(c) On what ground modern logicians classify propositions?

(3)

(d) Into how many kinds general proposition can be divided?

(e) Name the kind of opposition that exists between A and I propositions.

5. Answer any *one* of the following questions : 2

(a) Define universal proposition with example.

(b) How many kinds of oppositions are there in Aristotelian square of opposition? Name them.

6. *(a)* What is simple proposition? What are its different forms? Explain each of them with examples. 1+1+6=8

Or

(b) Explain the traditional square of opposition with examples. How does it differ from Boolean square of opposition?

6+2=8

UNIT—III

7. Answer any *four* of the following questions :

1×4=4

(a) What is an immediate inference?

(b) State one rule of conversion.

(4)

(c) Can 'O' proposition be converted?

(d) Which term determines the figure of a syllogism?

(e) Name one valid mood of Second figure.

8. Answer any *one* of the following questions : 2

(a) What is contraposition?

(b) Convert the following :

(i) Some men are wise.

(ii) The virtuous alone are happy.

9. (a) What is obversion? State the rules of obversion. What is material obversion?

2+4+2=8

Or

(b) (i) What is syllogism? 2

(ii) Test the validity or invalidity of the following arguments by means of Venn diagram : 3+3=6

(1) God creates man, man creates sin, hence God creates sin.

(2) All great poets are philosophers, some scientists are philosophers, therefore some scientists are great poets.

(*Continued*)

(5)

UNIT—IV

10. Answer any *four* of the following questions :

1×4=4

(a) What is variable?

(b) State one advantage of the use of symbols in logic.

(c) What is the symbol of implication?

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

(e) What is contradictory statement?

11. Answer any *one* of the following questions : 2

(a) What do you mean by truth-table?

(b) Symbolize the following : 1+1=2

(i) If inflation continues, then the standard of living will not rise.

(ii) It is not true that either Leena will go or she will stay at home.

12. (a) Use truth-tables to determine the validity or invalidity of the following argument forms : 4+4=8

(i) $p \supset (q \cdot r)$
$\therefore \sim (q \cdot r) \supset \sim p$

(*Turn Over*)

(6)

(ii) $p \lor q$

  p

$\therefore \sim q$

Or

(b) Prove the invalidity of the following by using the shorter truth-table method : 4+4=8

(i) $A \supset B$

  $C \supset B$

$\therefore A \supset C$

(ii) $E \supset (F \lor G)$

  $G \supset (H \cdot I)$

  $\sim H$

$\therefore E \supset I$

UNIT—V

13. Answer any *four* of the following questions : 1×4=4

(a) How many rules of inference are there?

(b) Give an example of Modus Ponens.

(c) State the rule of hypothetical syllogism.

(d) State the rule of simplification.

(e) State the rule of disjunctive syllogism.

(*Continued*)

(7)

14. Answer any *one* of the following questions : 2

(a) What is meant by formal proof of validity?

(b) State the rule of Constructive Dilemma and Destructive Dilemma.

15. (a) State the justification for each line that is not a premise for the following arguments : 4+4=8

(i) 1. $A \supset B$

2. $A \lor (C \cdot D)$

3. $\sim B \cdot \sim E / \therefore C$

4. $\sim B$

5. $\sim A$

6. $C \cdot D$

7. C

(ii) 1. $N \supset O$

2. $(N \cdot O) \supset P$

3. $\sim (N \cdot P) / \therefore \sim N$

4. $N \supset (N \cdot O)$

5. $N \supset P$

6. $N \supset (N \cdot P)$

7. $\sim N$

(*Turn Over*)

(**8**)

Or

(b) Construct formal proof of validity for the following arguments : 4+4=8

    (i) $(E \vee F) \supset (G \cdot H)$
       $(G \vee H) \supset I$
       $E \, / \therefore I$

    (ii) $W \supset X$
       $(W \cdot X) \supset Y$
       $(W \cdot Y) \supset Z \, / \therefore W \supset Z$

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