



**2021/TDC/CBCS/ODD/  
PHIDSC/GE-101T/054**

**TDC (CBCS) Odd Semester Exam., 2021  
held in March, 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*

**SECTION—A**

Answer any *twenty* of the following questions :  $1 \times 20 = 20$

1. Define Logic.
2. Is logic a science or an art or both?



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3. State one use of studying logic.
4. What is an argument?
5. Give an example of argument form.
6. What is a proposition?
7. Give an example of general proposition.
8. What kind of opposition exists between *A* and *O* propositions?
9. "Only graduates can apply for the post." Reduce this sentence into logical form.
10. The word 'logic' is derived from which word?
11. State one rule of obversion.
12. Name one valid mood of Third Figure.
13. "Some men are honest." Convert.

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14. What is an inference?
15. How many valid moods are there in the First Figure?
16. What is a symbol?
17. What is a constant?
18. If *p* is true, *q* is false, then what is the truth value of  $p \vee q$ ?
19. Symbolize :  
It is not true that Ram is honest and Shyam is wise.
20. What is tautology?
21. What is meant by formal proof of validity?
22. What is *modus ponens* in propositional logic?
23. Give example of *modus tollens*.

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24. State the rule of inference :

$$(D \vee E) \cdot (F \vee G)$$

$$\therefore D \vee E$$

25. How many rules of inference are there?

SECTION—B

Answer any five of the following questions :  $2 \times 5 = 10$

26. Distinguish between truth and validity.
27. When does an argument become valid?
28. What is an existential general proposition?
29. What is conditional proposition? What are its different kinds?
30. What is 'figure' of syllogism?
31. What is contraposition?
32. Distinguish between mediate and immediate inference.

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33. Contrapose :

"Some players are not musicians."

34. State the rule of disjunctive syllogism (DS) and Absorption (Abs).

35. State the justification for each line that is not premise for the following argument :

A

B /  $\therefore (A \vee C) \cdot B$

A  $\vee$  C

$(A \vee C) \cdot B$

SECTION—C

Answer any five of the following questions :  $8 \times 5 = 40$

36. Discuss the nature and scope of logic.  $4 + 4 = 8$
37. What is 'truth'? Explain the relation between truth and validity. 8
38. What do you mean by 'opposition of proposition'? Explain the traditional square of opposition with examples. How does it differ from Aristotelian square of opposition?  $2 + 4 + 2 = 8$

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39. Explain the four-fold scheme of proposition. 8
40. What is conversion? What are the rules of conversion? Distinguish between simple conversion and conversion per accidens.  $2+4+2=8$
41. Define categorical syllogism. Explain Copi's six rules of syllogism.  $2+6=8$
42. Use truth table to characterise the following statement forms as tautologies, contradictory or contingent :  $4 \times 2 = 8$
- (i)  $[q \equiv (p \supset q)] \supset p$
- (ii)  $(p \supset q) \supset [\sim p \supset (q \vee \sim q)]$
43. Prove the invalidity of the following by using the shorter truth-table method :  $4 \times 2 = 8$
- (i)  $A \supset B$   
 $C \supset D$   
 $A \vee D$   
 $\therefore B \vee C$
- (ii)  $R \supset (Q \vee P)$   
 $(Q \cdot P) \supset O$   
 $\therefore R \supset O$

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44. Construct formal proof of validity for the following arguments :  $4 \times 2 = 8$
- (i)  $A \cdot B$   
 $(A \vee C) \supset D / \therefore A \cdot D$
- (ii)  $(E \vee F) \supset (G \cdot H)$   
 $(G \vee H) \supset I$   
 $E / \therefore I$
45. What are the rules of inference? Explain with example. 8

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