2023/TDC(CBCS)/ODD/SEM/
PHISEC-301T (A/B)/059

TDC (CBCS) Odd Semester Exam., 2023

PHILOSOPHY

(3rd Semester)

Course No. : PHISEC-301T

(Logical Reasoning—I)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

Honours Students will answer Option—A and
Pass Students will answer Option—B

OPTION—A

(For Honours Students)

Course No. : PHISEC-301T (A)

SECTION—A

Answer *fifteen* questions, selecting *three* from each Unit : 1×15=15

Unit—I

1. What is Deductive Reasoning?

2. Is the conclusion of an Inductive Argument certain?

3. Who invented Venn diagrams?

4. What is Analytical Reasoning?

Unit—II

5. Define syllogism.

6. What is middle term?

7. How many valid moods are there in the fourth figure?

8. Name one valid mood of first figure.

Unit—III

9. What is Anumāna?

10. What is Pakṣatā?

11. What is Vyāpti?

12. What is Hetvābhāṣa?

Unit—IV

13. How many basic truth-functional connectives are there?

14. What is a constant?

15. When is an implicative function false?

16. What is the symbol for negative function?

Unit—V

17. Mention any one utility of symbols in logic.

18. What is ideogram?

19. State the rule of modus tollens.

20. State the rule of absorption.

SECTION—B

Answer *five* questions, selecting *one* from each Unit : $2 \times 5 = 10$

Unit—I

21. State two points of differences between Deductive and Inductive arguments.

22. What is an argument? When does an argument become invalid?

Unit—II

23. Give a concrete example of the fallacy of illicit major.

24. Name the valid moods of the third figure.

Unit—III

25. What are the kinds/types of Anumāna classified on the basis of the nature of invariable concomitance?

26. What are the different kinds of Vyāpti? Give example of each.

Unit—IV

27. What is truth-function? What is truth-table?

28. Draw truth-tables for conjunctive function and disjunctive function.

Unit—V

29. What is formal proof of validity?

30. Symbolize the following statements :

(a) If Mita passed in logic, then Sita passed in Physics (M, S).

(b) Either Rose is beautiful or the Sky is blue (R, S).

SECTION—C

Answer *five* questions, selecting *one* from each Unit : $5 \times 5 = 25$

Unit—I

31. Test the validity or invalidity of the following arguments by means of Venn diagram technique and mention the figure and mood : $2\frac{1}{2} \times 2 = 5$

(a) Some reformers are philosophers, so some idealists are philosophers, since all reformers are idealists.

(b) No men are immortal, because all men are animals and no animals are immortal.

32. Test the validity or invalidity of the following syllogistic forms by means of Venn diagram technique : $2\frac{1}{2}\times2=5$

(a) EIO-2

(b) AOO-4

Unit—II

33. Test the following syllogistic arguments using I. M. Copi's six rules : $2\frac{1}{2}\times2=5$

(a) No Indians are Greeks, but some Indians are Aryans, therefore, some Greeks are not Aryans.

(b) No doctors are extremists and some extremists are violent persons. It follows that some violent persons are not doctors.

34. State I. M. Copi's six rules for testing categorical syllogism. Mention the fallacies that arise upon the violation of these rules.

Unit—III

35. State the steps of the five-membered syllogism in Indian logic with an example. Distinguish between Svārthānumāna and Parārthānumāna. 3+2=5

36. Briefly discuss the different types of Hetvābhāsa.

Unit—IV

37. Explain the five basic truth-functions with their respective truth-tables.

38. Test the validity or invalidity of the following argument-forms using truth-table method : $2\frac{1}{2}\times2=5$

(i) $(p \vee q) \supset (p \cdot q)$

$p \vee q$

$\therefore p \cdot q$

(ii) $p \supset (q \supset r)$

$p \supset q$

$\therefore p \supset r$

Unit—V

39. Construct formal proof of validity for the following arguments : $2\frac{1}{2}\times2=5$

(i) $(A \vee B) \supset C$

$(C \vee B) \supset [A \supset (D \equiv E)]$

$A \cdot D / \therefore D \equiv E$

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

40. Construct an indirect proof for the following arguments : $2\frac{1}{2} \times 2 = 5$

(i) $A \vee (B \cdot C)$
$A \supset C$
$\therefore C$

(ii) $D \supset (Z \supset Y)$
$Z \supset (Y \supset \sim Z)$
$\therefore \sim D \vee \sim Z$

(Continued)

OPTION—B

(For Pass Students)

Course No. : PHISEC–301T (B)

SECTION—A

Answer *fifteen* questions, selecting *three* from each Unit : 1×15=15

Unit—I

1. When does an argument become invalid?

2. Is Deductive Argument concerned with formal truth only?

3. How many kinds of opposition of propositions are accepted by Aristotle?

4. What kind of opposition exists between A and O propositions?

Unit—II

5. What is a Fallacy?

6. Give an example of a fallacious argument.

7. What kind of fallacy are 'Riddles' based on?

8. Is the fallacy of ambiguous major a kind of fallacy of equivocation?

Unit—III

9. Define Syllogism.

10. How many premises are there in a syllogism?

11. What is Middle Term?

12. Name the figure in which the middle term is predicate in both the premises.

Unit—IV

13. What are Venn Diagrams?

14. Who invented the Venn Diagram Technique?

15. What kind of diagram/figure is used in Venn diagram technique?

16. What does a circle in Venn diagram represent?

Unit—V

17. What is a Dilemma?

18. What is a mixed Hypothetical Syllogism?

19. When does a disjunctive syllogism become fallacious?

20. Is Dilemma a mixed syllogism?

SECTION—B

Answer *five* questions, selecting *one* from each Unit : 2×5=10

Unit—I

21. Explain briefly the constituent parts of an argument.

22. Explain briefly subaltern opposition with examples.

Unit—II

23. What is Analytical Reasoning?

24. Briefly explain the Fallacy of Ambiguous Minor with an example.

Unit—III

25. Name the valid moods of first figure.

26. Give an example of pure categorical syllogism and underline and mention the three terms.

Unit—IV

27. What is an Empty Class? How is it represented in Venn diagram technique?

28. What is a non-empty class? How is it represented in Venn diagram technique?

Unit—V

29. State two rules of Hypothetical Syllogism.

30. State two rules of Disjunctive Syllogism.

SECTION—C

Answer *five* questions, selecting *one* from each Unit : 5×5=25

Unit—I

31. Distinguish between Deductive and Inductive reasoning.

32. *(a)* If the following proposition is true, determine the truth or falsity of the propositions opposed to it, i.e., A, I and O : 3

No men are free from troubles (E)

(b) Determine the logical relation established by opposition of propositions between the following propositions : 2

No philosophers are scientists (E) and some philosophers are scientists (I)

Unit—II

33. Explain the different types of fallacies of ambiguity with examples.

34. Explain the different types of fallacies of equivocation with examples.

Unit—III

35. What is meant by figure of a syllogism? Explain briefly the four figures of syllogism. 1+4=5

36. State I. M. Copi's six rules for testing categorical syllogisms. Mention the fallacies that arise when these rules are violated.

Unit—IV

37. How many intersecting circles are drawn in Venn diagram technique? Give a Venn diagram representation of the four standard-form categorical propositions—A, E, I and O. 1+4=5

38. Test the validity or invalidity of the following arguments using Venn diagram technique : $2\frac{1}{2}\times 2=5$

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

(b) No weaklings are labour leaders, because no weaklings are true liberals, and all labour leaders are true liberals.

Unit—V

39. Briefly explain the different kinds of Dilemma with examples.

40. Identify the form and discuss the validity or invalidity of the following arguments : $2\frac{1}{2}\times 2=5$

(a) Either John is a doctor or John is an engineer.
John is not a doctor.
$\therefore$ John is an engineer.

(b) If it rains, then I shall come.
It did not rain.
$\therefore$ I shall not come.

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