TDC (CBCS) Even Semester Exam., 2023

PHILOSOPHY

(Honours)

(4th Semester)

Course No. : PHIHCC–403T

(Logic—II)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

SECTION—A

Answer any *ten* of the following questions : 2×10=20

1. State the law of identity.

2. What is the law of non-contradiction?

3. Are the Hetvābhāsas material fallacies? How many Hetvābhāsas are there?

4. Define formal proof of validity.

5. What is 'reductio ad absurdum method' in method of deduction?

6. State the rules of transposition and material implication.

7. What is quantification?

8. What symbols are used as existential and universal quantifiers?

9. What is a conditional proof?

10. What is an experimental method?

11. How many instances are required to apply the method of difference?

12. State the name of two fallacies of inductive reasoning.

13. Define hypothesis.

14. What is indirect verification of hypothesis?

15. How is probability defined in the relative frequency theory?

SECTION—B

Answer any *five* of the following questions : 10×5=50

16. Explain the different laws of thought.

17. What is Hetvābhāsa? Elaborate the different types of Hetvābhāsa. 2+8=10

18. Construct the formal proof of validity (any *two*) :

(a) $K \vee (\sim K \cdot M)$
$K \supset N$
$\therefore (N \cdot K) \equiv K$

(b) $(J \vee K) \supset \sim L$
L
$\therefore \sim J$

(c) $P \supset Q$
$P \supset (Q \supset R)$
$\therefore P \supset R$

19. Construct indirect proof :

(a) $P \vee (Q \cdot R)$
$P \supset R$
$\therefore R$

(b) $(A \vee B) \supset (C \supset D)$
$(\sim D \vee E) \supset (A \cdot C)$
$\therefore D$

20. Symbolize the following using quantifiers :

(a) Cats are animals.

(b) Not every tourist waited for the bus.

(c) Only registered practitioners can prescribe medicines.

(d) Some foods are harmful only if taken in excessive quantity.

(e) All fruits and vegetables are wholesome and delicious.

21. Use conditional proof to prove the validity of the following :

(a) $E \supset F$
$E \supset G$
$\therefore E \supset (F \cdot G)$

(b) $H \supset (I \vee J)$
$\sim I$
$\therefore H \supset J$

22. Explain Mill's method of agreement with appropriate example.

23. Elaborate the different types of inductive fallacies.

24. Explain the conditions of valid hypothesis.

25. Elaborate the role of hypothesis in scientific enquiry.

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