K25U 2993

Reg. No. : .....

Name : .....

III Semester B.A. Degree (C.B.C.S.S. – O.B.E. – Supplementary/ Improvement) Examination, November 2025
(2019 to 2023 Admissions)
CORE COURSE IN PHILOSOPHY
3B03 PHI : Symbolic Logic and Informatics

Time : 3 Hours Max. Marks : 40

PART – A
(Short Answer)

Answer **all** questions.

1. Write a short note on symbolic logic.
2. Define constants.
3. Explain simple propositions.
4. Write the rule of constructive dilemma.
5. Symbolize the following statement :
   He is intelligent although not careful.
6. Define information. **(6×1=6)**

PART – B
(Short Essay)

Answer **any six** questions. **Each** answer carries **2** marks.

7. Examine the notion of knowledge.
8. Write the etymology of the term informatics.
9. State the rules of Modus Ponens and Modus Tollens.
10. Define tautology and give an example of tautology.

P.T.O.

11. Examine argument form.

12. What is conjunction and draw the truth table of conjunction.

13. Examine logical equivalence.

14. Construct the truth table of the given argument and find out the validity of it.
    $P \supset Q$
    P
    $\therefore Q$

(6×2=12)

PART – C
(Essay)

Answer **any four** questions. **Each** answer carries **3** marks.

15. Elaborate the uses of symbols in symbolic logic.

16. Bring out the distinction between simple and compound propositions along with examples.

17. Bring out the principles and procedures of truth table construction.

18. Examine De Morgan's theorem.

19. Elaborate the notion of double negation.

20. Identify the statement forms as tautology, contradictory or contingent by the method of truth table.
    a) $[p \supset (p \supset q) \supset q$
    b) $P \equiv [p \bullet (p \vee q)]$.

(4×3=12)

PART – D
(Long Essay)

Answer **two** questions. **Each** answer carries **5** marks.

21. Elaborate the notion of statement and statement form and bring out the features of different kind of statement form with examples.

22. Define truth-functionally compound proposition and analyze features of disjunction, negation, implication and Bi-conditional with truth tables.

23. Construct formal proof of validity of the following arguments :

a) $N \supset M$

$M \supset D$

$M \supset P$

$\sim P$

$N \vee M / \therefore D$

b) $(P \vee Q) \supset R$

$S \vee P$

$\sim S / \therefore R$

24. Define artificial intelligence and discuss its scope and limitations. **(2×5=10)**