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K22U 3540

Reg. No. : .....

Name : .....

Third Semester B.A. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, November 2022
(2019 Admission Onwards)
CORE COURSE IN PHILOSOPHY
3B03 PHI – Symbolic Logic and Informatics

Time : 3 Hours Max. Marks : 40

PART – A
(Short Answer)

Answer **all** questions. **Each** answer carries **1** mark.

1. Dot symbol is the truth functional connective of _____
2. Name the two types of disjunctions.
3. Wedge symbol is the truth functional connective of _____
4. What are constant symbols ?
5. Define a compound statement.
6. Who wrote *Principia Mathematica* ? **(6×1=6)**

PART – B
(Short Essay)

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

7. Describe variable symbols.
8. Give the etymological meaning of Informatics.
9. Define the formal proof of validity.
10. Write a note on contingent statement forms.
11. State the rule of inference for the following argument.
    $(A \supset \sim B) \cdot (\sim C \supset D)$
    $\therefore A \supset \sim B$

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12. Explain disjunction with a truth table.
13. What is the truth functional connective of bi conditional ? Give its symbol.
14. Explain the notion of material implication. **(6×2=12)**

PART – C
(Essay)

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

15. Explain the importance of Artificial Intelligence.
16. Write a note on truth functional compound statement.
17. Construct the formal proof of validity of the following :
    $A \supset B$
    $B \supset C$
    $C \supset D$
    $\sim D / \therefore \sim A$
18. Give the rules of inference for modus ponens.
19. Examine the principle of double negation.
20. Give a brief note on the use of symbols. **(4×3=12)**

PART – D
(Long Essay)

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

21. Write an essay on Artificial Intelligence and Informatics.
22. Elucidate on the rules of inference.
23. Discuss the use of variables, constants and symbols in symbolic logic.
24. Distinguish between a statement form and argument form. **(2×5=10)**

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