K23U 3501

III Semester B.A. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/
Improvement) Examination, November 2023
(2019 to 2022 Admissions)
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. Explain constants.

2. Symbolize the proposition, 'Raju is either intelligent or he is hard working'.

3. State the rule of Modus Ponens.

4. Explain compound proposition.

5. What is contingent statement form ?

6. Explain binary data.

(6×1=6)

PART – B
(Short Essay)

Answer any six questions. Each answer carries 2 marks.

7. Describe the nature of symbolic logic.

8. Define truth functionally compound statement.

9. What is conjunction ? State the truth table of conjunction.

10. Examine statement and statement form.

11. Make a distinction between data, knowledge and information.

12. Define formal proof of validity.

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13. If A and B are true and X, and Y are false then find out the value of the following statements.
    a) $A \cdot [X \vee (B \cdot Y)]$.
    b) $A \vee (X \cdot Y)$

14. State the justification for each line that is not a premise.
    1) $R \supset C$
    2) $C \supset \sim I$
    3) $R / \therefore \sim I$
    4) C
    5) $\sim I$.

(6×2=12)

PART – C
(Essay)

Answer any four questions. Each answer carries 3 marks.

15. Discuss De Morgan's theorem.

16. Examine Implication and Bi-conditional.

17. Test the validity of following argument by Truth table method.
    $\sim (p \supset q)$
    $p / \therefore q$

18. Use the Truth table method to characterize the following statement form as Tautology, Contingent or Contradictory.
    a) $(p \supset q) \cdot \sim (p \supset q)$
    b) $(p \vee q) \supset (p \cdot q)$

19. What is Informatics ? Elaborate the development of Informatics.

20. Construct the formal proof of validity of the following argument.
    $p \supset \sim q$
    $\sim q \supset r$
    $r \supset s$
    $(p \cdot s) \supset u / \therefore p \supset u$.

(4×3=12)