



K16U 1179

Reg. No. :

Name :

II Semester B.A. Degree (CCSS – Reg./Supple./Improv.)
Examination, May 2016

COMPLEMENTARY COURSE IN PHILOSOPHY

2C02 PHI : Symbolic Logic and Foundations of Computer Application
(2014 Admn. Onwards)

Time : 3 Hours

Max. Marks : 40

PART – A

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

Fill in the blanks :

1. The logician insists on emotionally _____ language.
2. _____ logic adopts mathematical methods and formulations.
3. The symbolic expression of 'Both parrot (P) and sparrow (S) are birds' is _____.
4. The pictorial representation of the logic gate for AND is _____. (4×1=4 Marks)

PART – B

Write short notes on **any seven** of the following. Answer should **not** exceed **50** words **each**. **Each** question carries **2** marks.

5. Informative function of language.
6. The Law of Excluded Middle.
7. The symbolic form of implication.
8. Truth table for Negation.
9. Contingent statement forms.
10. Disjunction.

P.T.O.



11. De Morgan's theorem about the logical equivalence of the negation of a conjunction.
12. The analogy between binary number system and truth function.
13. OR gate.
14. The truth table for NOT gate. (7×2=14 Marks)

PART – C

Answer **any four** of the following. Answer should **not** exceed **100** words **each**. Each question carries **3** marks.

15. What is the primary difference between traditional and modern logic ?
16. State the three laws of thought.
17. Define contradictory statement form.
18. Show the distinction between implication and conjunction with the help of their truth tables.
19. State the Boolean formulae for the four categorical propositions.
20. Describe the input-output correlation in the case of XOR gate. (4×3=12 Marks)

PART – D

Answer **any two** questions. Answer should **not** exceed **250** words **each**. Each question carries **5** marks.

21. Bring out the advantages of symbolization in logic.
22. Describe the use of truth functional connectives in conjunction and material implication.
23. Test the validity of the following by means of truth table method
 $p \supset q$
 p
 $\therefore q$
24. Bring out the concept of logic gates and present the MIL symbols for NOR, NAND, AND and XOR gates. (2×5=10 Marks)