



M 8809

Reg. No. :

Name :

II Semester B.A. Degree (CCSS – 2014 Admn. – Regular)
Examination, May 2015
COMPLEMENTARY COURSE IN PHILOSOPHY
2C02 PHI : Symbolic Logic and Foundations of Computer Application

Time : 3 Hours

Max. Marks : 40

PART – A

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

Fill in the blanks :

1. "Come here" ! This shows the _____ function of language.
2. According to the Law of _____, a thing cannot be A and non-A at the same time.
3. _____ are the symbols for negation, conjunction and material equivalence.
4. By using truth table for logic gate OR, we can show that the output (X) is _____ if input A or input B is TRUE. **(4x1=4)**

PART – B

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

5. Any two advantages of using symbols in logic.
6. The symbolic form of conjunction.
7. Truth table for implication.
8. Contradictory statement forms.

P.T.O.



9. Logical equivalence
10. Truth table for $(\sim p \sqcap p) \vee p$.
11. NAND gate
12. The Boolean formula of A and O propositions
13. Tautology
14. The following table shows the binary values of the inputs of a NOR gate. Find out the values in the output columns.

INPUT A	INPUT B	OUTPUT X
0	0	-
0	1	-
1	0	-
1	1	-

(7×2=14)

PART - C

Answer **any four** of the following. Answer should **not** exceed **100** words **each**.

Each question carries **3** marks.

15. What is particular about the language of logic ?
16. Define bi-conditional and present its truth table.
17. Present the symbols for various compound propositions with examples.
18. Define conjunction and present its truth table.
19. Describe the input-output correlation in the case of AND gate.
20. Present the MIL symbols for NOT, NOR and XOR gates. (4×3=12)

PART - D

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

21. Distinguish between traditional and symbolic logic.
22. Test the validity of the following by means of truth table method :
 - $p \vee q$
 - $\sim p$
 - $\therefore q$
23. Explain the analogy between logical operation and the binary operation in computers.
24. A system used 3 switches A, B and C. A combination of these switches determines whether an alarm, X, sounds. If switch A or switch B are in the ON position and switch C is in the OFF position, then a signal to sound the alarm X is produced. Design a logic circuit (network) using the symbols for logic gates. (2×5=10)