



K17U 1007

Reg. No. :

Name :

II Semester B.A. Degree (C.B.C.S.S. – Reg./Supple./Imp.)
Examination, May 2017
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. "Russell is a philosopher". This statement serves the _____ function of language.
2. According to the Law of _____, a proposition must be either true or false, but not both.
3. If 'p' is true and 'q' is true, 'p.q' is _____
4. In the NOT gate, the output X is true if the input A is _____. (4×1=4)

PART – B

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

5. Directive function of language.
6. The symbols used in logic.
7. Truth table for material equivalence.
8. Truth table for $(p \supset q) \vee p$.
9. Difference between tautology and contradiction.
10. The meaning and symbol of a 'complement' in Boolean system.
11. XOR gate.
12. Conjunction.
13. Binary operation in digital computers.
14. Empty class. (7×2=14)

P.T.O.



PART - C

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

15. Write a short note on emotively neutral language.
16. Describe the Law of Identity.
17. Define disjunction and present its truth table.
18. State the two variants of De Morgan's theorem.
19. Define AND gate and show when it gives a true output (1).
20. The following table shows the binary values of the inputs of an OR gate. Find out the values in the output columns.

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

(4×3=12)

PART - D

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

21. Bring out the different statement forms.
22. Distinguish between implication and bi-conditional with the help of their truth tables.
23. Test the validity of the following by means of truth table method :

$$(p \vee q) \supset (p \cdot q)$$

$$(p \vee q)$$

$$\therefore (p \cdot q)$$

24. Demonstrate the NAND gate and show the truth table if A and B are the input and X is the output.

(2×5=10)