

Answer any two questions. Each answer should not exceed 250 words. Each answer carries 5 marks.

21. Describe the use of truth functional connectives in propositional logic. Demonstrate the truth table for negation and conjunction.

22. Bring out the characteristics of disjunction as a truth-functional compound statement and demonstrate its truth table.

23. Define statement form. Demonstrate the truth table for the statement form with any false substitution instances and only true substitution instances.

24. Demonstrate the circuit diagrams and truth tables of OR and AND gates to show the on/off position of the input circuits when the output circuit passes on a signal.

(2x5=10)



Reg. No. :

Name :

II Semester B.A. Degree (C.B.C.S.S. – Reg./Supplè./Imp.)

Examination, May 2018

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 answer carries 1 mark.

Fill in the blanks with the most appropriate answer chosen from the given options.

- Logicians prefer _____ language.

a) emotively neutral	b) emotively charged
c) emotively biased	d) none of these
- The principle of _____ is not a law of thought.

a) non-contradiction	b) identity
c) excluded middle	d) none of these
- _____ is an advantages of symbolic logic.

a) Ambiguity	b) Precision	c) Vagueness	d) All these
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- In the NOR Gate, if the input for A is 0 and that for B is 1, the output is _____.

a) zero	b) one
c) both a) and b)	d) neither a) nor b)

(4x1=4)

P.T.O.



PART – B

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

5. Use of artificial language in logic.
6. Truth table for material equivalence.
7. Logical equivalence.
8. Biconditional.
9. The symbolic form and truth table for Modus Tollens.
10. Simple statement and compound statement.
11. Truth table for double negation.
12. NAND gate.
13. The truth table giving the Boolean expression of $(Q = A \text{ and } B)$.
14. Binary digital values and logical values. (7×2=14)

PART – C

Answer **any four** questions. **Each** answer should **not** exceed **100** words. **Each** answer carries **3** marks.

15. Write a note on the three basic functions of language.
16. Bring out the characteristics of conjunction as a truth-functional compound statement and demonstrate its truth table.
17. Analyze the structure of a conditional statement and identify its components.
18. State the two expressions of De Morgan's theorems and their symbolic formulae.
19. In what sense the NOT gate is different from the basic logic gates in terms of input?
20. Convert the real number 9.2 to binary numbers. (4×3=12)



PART – D

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

21. Describe the use of truth functional connectives in symbolic logic. Demonstrate the truth tables for negation and implication.
22. Bring out the characteristics of disjunction as a truth-functional compound statement and demonstrate its truth table.
23. Define 'statement form'. Demonstrate the truth table for the statement forms with only false substitution instances and only true substitution instances.
24. Demonstrate the circuit diagrams and truth tables of OR and AND gates to show the on/off position of the input circuits when the output circuit passes on a signal. (2×5=10)