K15U 0235

III Semester B.A. Degree (CCSS – 2014 Admn. – Regular) Examination, November 2015
Core Course in Philosophy
3B03 PHI : SYMBOLIC LOGIC AND INFORMATICS

Time : 3 Hours   Max. Marks : 40

PART – A

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

Fill in the blanks :

1. True/false is termed the _____ of a proposition.

2. It is not the case that A' is symbolized as _____

3. If both 'p' and 'q' are false, p ⊃ q is _____

4. A statement form that has only true substitution instances is called _____

                                                                    (4×1=4)

PART – B

Answer **any seven** questions. **Each** answer should **not** exceed **50** words. **Each** answer carries **2** marks.

5. What is the main difference between traditional and symbolic logic ?

6. What is meant by partial common meaning of disjunction ?

7. Define compound statement and give an example.

8. Identify the compound statements in the list given below :

   a) Gold is scarce and gold is costly.

   b) John is my friend.

   c) Nitya is poor but she is industrious.

   d) Logicians insist on precision

9. Symbolize the following :

   a) It is not the case that if C then D.

   b) p implies q if and only if q implies p.

10. Write a short note on implicative function.

11. Describe briefly the use of truth table.

12. Analyze the truth table for conjunctive function and find out the conditions in which a conjunction becomes true/false.

13. Determine the number of rows in the truth tables for the following :

   a) $(\sim p . p) \vee p$

   b) $p \supset q, r \supset s, s . t$

14. Define information and give an example. **(7×2=14)**

PART – C

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

15. Elucidate the notion of material equivalence with the help of truth table.

16. Distinguish between the strong and weak sense of disjunction.

17. Determine the validity of the following by truth table method :

   $(p . q)$

   $\therefore \sim p$

18. Construct the formal proof of validity for the following :

   a) $p \supset q$
       $q \supset s$
       $p / \therefore s$

   b) $(p \vee q) \supset r$
       $s \vee p$
       $\sim s / \therefore r.$

19. Define a truth functionally compound statement with a note on negative truth function.

20. What is your view of internet as a means to make learning more easy and effective ? **(4×3=12)**

PART – D

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

21. Explain the advantages of using symbols in logic. Add a note on the constants and variables commonly used in logic.

22. Define formal proof of validity and present the first nine rules of inference.

23. Write notes on **any two** of the following :

   a) Statement forms

   b) De Morgan's theorem

   c) Internet as a memory platform.

24. Bring out the classification of statement forms into tautologous, contradictory and contingent with the aid of their respective truth tables. **(2×5=10)**

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