'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL
B.A. Honours 1st Semester Examination, 2024

CC2-PHILOSOPHY

LOGIC: WESTERN -I

Time Allotted: 2 Hours

Full Marks: 60

The figures in the margin indicate full marks.

SECTION-I

1. Answer any *four* of the following questions: 3×4 = 12
   (a) What do you mean by copula? Explain with example. 3
   (b) What do you mean by traditional square of opposition? 3
   (c) What is deductive argument? 3
   (d) What is class? 3
   (e) What is truth function? 3
   (f) Why three circles are required in Venn diagram of a syllogism? 3

SECTION-II

2. Answer any *four* of the following questions: 6×4 = 24
   (a) Explain good and bad analogy with examples. 3+3
   (b) What is Conversion? Converted the following Propositions: 2+2+2
      (i) All Childrens are happy.
      (ii) Soldiers are always patriot.
   (c) Use truth-table to determine the following statements are tautologous, self-contradictory or contingent: — 3+3
      (i) $p \supset [(p \supset q) \vee p]$
      (ii) $(p \equiv q) \equiv [(p \supset q) \cdot (q \supset p)]$
   (d) What is existential import? Do all Categorical propositions have existential import? Explain with example. 6
   (e) Test the validity or invalidity of the following arguments by syllogistic rules: 3+3
      (i) AAA – 1st figure
      (ii) Some Philosophers are Mathematicians, so, all Politicians are Philosophers, because all Politicians are Mathematicians.

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(f) Proof the validity of the following arguments with the help of Reductio-ad-absurdum: 3+3

   (i) $A \vee (B \supset A)$

      $\sim A \cdot C / \therefore \sim B$

   (ii) $N \supset [(N \cdot O) \supset P]$

      $N \cdot O / \therefore P$

SECTION-III

Answer any *two* of the following questions $12 \times 2 = 24$

3.   What is an analogical argument? What are the different criteria for the appraisal   4+8
of analogical argument? Explain with examples.

4.   Use truth-table to test the validity or invalidity of the following arguments /   4+4+4
argument forms:

   (i) $(p \supset q) \cdot (q \supset p) / \therefore p \supset q$

   (ii) $A \vee (B \vee C)$

      $\sim (B \vee C) / \therefore A$

   (iii) $p \vee (q \vee r)$

      $(q \vee r) \vee p / \therefore p \vee r$

5.   Test the validity or invalidity by using Venn-diagram: 4+4+4

   (i)   AEE – 2nd figure

   (ii) EIO – 4th figure

   (iii) All men are dishonest, some men are coward. Therefore so coward peoples
are dishonest.

6.   Construct formal proof of validity of the following: 4+4+4

   (i) $T \supset U$

      $\sim (U \vee V) / \therefore \sim T$

   (ii) $T \supset U$

      $T \supset V / \therefore T \supset (U \cdot V)$

   (iii) If the litmus paper turns red, then the solution is acid. Hence if the litmus
paper turns red, then either the solution is acid or something is wrong
somewhere.(R, A, W)

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