
'समानो मन्त्रः समितिः समानी'
UNIVERSITY OF NORTH BENGAL
B.A. Honours 1st Semester Examination, 2021

## CC2-Philosophy

## Western Logic-I

The figures in the margin indicate full marks All symbols are of usual significance.

## SECTION-I

1. Answer any four questions of the following:
$3 \times 4=12$
(a) What do you mean by connotation and denotation of term?
(b) When a deductive argument is invalid?
(c) Contradictory opposition of Proposition holds between which propositions? Give examples.
(d) What do you mean by conversion by limitation? Give example.
(e) What do you mean by complementary class? Give example.
(f) What is variable?

## SECTION-II

2. Answer any four questions of the following:
$6 \times 4=24$
(a) Distinguish between Deductive and Inductive argument with examples. 6
(b) Explain contrary and sub-contrary opposition of propositions with examples.
(c) What is analogical argument? Explain with example. Mention any one criterion for the appraisal of analogical argument.
(d) Determine the validity or invalidity of the following argument/argument form with the help of truth table.
(i) $(p \vee q) \supset(p \cdot q)$
$\sim(p \vee q)$
$\therefore \sim(p \cdot q)$
(ii) If Anil is elected class-representative, then if Sunil is elected Vice-President then Kamal is elected as treasurer. Sunil is not elected Vice-President. Therefore, either Anil is elected class-representative or Sunil is elected treasurer. (A, S, K)
(e) Determine the validity or invalidity of the following argument/argument form with the help of Venn diagram:
(i) OAO-3rd figure
(ii) None but whites are civilized, the ancient Germans were white. So they are civilized.
(f) Contrapose the following:
(i) Roses are not red.
(ii) There are white tigers.
(iii) Every man is liable to error.

## SECTION-III

3. Answer any two questions of the following:
(a) Explain the structure and characteristics of categorical syllogism. What are the rules of categorical syllogism? Explain.
(b) Construct formal proof of validity of the following: 4+4+4
(i) $(A \supset B) \cdot(C \supset D)$
$E \supset F$
$(A \vee E) \cdot(C \vee G)$
$\therefore B \vee F$
(ii) $(A \vee B) \supset \sim C$

C
$\therefore \sim A$
(iii) If either Socrates was happily married or else he wasn't, then Socrates was a great Philosopher. Therefore, Socrates was a great Philosopher.(H, G)
(c) Determine the validity or invalidity of the following argument/argument form with the help of syllogistic rules:
(i) AEE - 3rd figure
(ii) Some Philosophers are Mathematicians; hence some Scientists are Philosophers. Since all Scientists are Mathematicians.
(iii) Some Mammals are horses, for no horses are centaurs, and centaurs are mammals.
(d) Determine the nature of the following statement form/statement as tautologous, contingent, or self-contradictory with the help of truth table.
(i) $\sim(p \vee q) \equiv(\sim p \cdot \sim q)$
(ii) $p \supset[\sim p \supset(q \vee \sim q)]$
(iii) $A \equiv[A \cdot(\mathrm{~B} \cdot \sim A)]$


