



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL

B.A. Honours 1st Semester Examination, 2021

CC2-PHILOSOPHY

WESTERN LOGIC-I

Time Allotted: 2 Hours

Full Marks: 60

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

SECTION-I

1. Answer any **four** questions of the following: 3×4 = 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: 6×4 = 24
- (a) Distinguish between Deductive and Inductive argument with examples. 6
 - (b) Explain contrary and sub-contrary opposition of propositions with examples. 6
 - (c) What is analogical argument? Explain with example. Mention any one criterion for the appraisal of analogical argument. 4+2
 - (d) Determine the validity or invalidity of the following argument/argument form with the help of truth table. 3+3
 - (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: 3+3
- (i) OAO-3rd figure
- (ii) None but whites are civilized, the ancient Germans were white. So they are civilized.
- (f) Contrapose the following: 2+2+2
- (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: 12×2 = 24
- (a) Explain the structure and characteristics of categorical syllogism. What are the rules of categorical syllogism? Explain. 6+6
- (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: 4+4+4
- (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. 4+4+4
- (i) $\sim(p \vee q) \equiv (\sim p \cdot \sim q)$
- (ii) $p \supset [\sim p \supset (q \vee \sim q)]$
- (iii) $A \equiv [A \cdot (B \cdot \sim A)]$

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