



‘সমানো মন্ত্র: সমিতি: সমানী’

UNIVERSITY OF NORTH BENGAL

B.A. Sec 2nd Semester Examination, 2024

UPHISEC12002-PHILOSOPHY

REASONING AND LOGICAL THINKING

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

SECTION-I

1. Answer any **five** questions from the following: 2×5 = 10
- (a) Define set. 2
- (b) If $A = B$ and $B = C$, then $A = C$. — (True/False) 2
- (c) If $A = \{1, 2, 3\}$ 2
 $B = \{2, 3, 4\}$
 $C = \{4, 5\}$
 then find the following:
 $(A \cap B) \cap C$
- (d) Empty set is the sub-set of any set — (True/False) 2
- (e) What are the Laws of thought? 2
- (f) What is informal fallacy? 2
- (g) Draw a Venn-diagram representing $A \cap B \neq \wedge$ 2
- (h) Find the following: 2
 $\{\wedge, \{\wedge\}\} \sim \{\wedge\}$

SECTION-II

2. Answer any **two** questions from the following: 5×2 = 10
- (a) What are the basic characteristics of set? 5
- (b) Let: $\dot{V} = \{1, 2, 3, 4\}$ 2½+2½
 $A = \{1, 3\}$
 $B = \{2, 4\}$
 Find the following:
 (i) $\sim (A \cup B)$
 (ii) $V \sim (A \cup B)$
- (c) Symbolize the following with the help of set theoretical elements: 2½+2½
 (i) All Philosophers who are educated and wise.
 (ii) Some men who take coffee, milk and tea also take wine and tobacco.

(d) Write a note on Fallacy of Ambiguity.

5

OR

Are the following assumptions mutually consistent?

5

$$C \neq \wedge$$

$$A \cap B \neq \wedge$$

$$A \cap B = \wedge$$

SECTION-III**Answer any two questions from the following**

10×2 = 20

3. Test the validity of the following arguments by Venn-diagram:

5+5

(i) All Philosophers are wise, some scientists are not wise. So, some scientists are not Philosopher.

(ii) $W \cap \sim P = \wedge$

$W \cap \sim L \neq \wedge$

$\therefore L \cap \sim P \neq \wedge$

4. (i) What is an empty set?

1

(ii) How many empty sets we can assume in the world?

1

(iii) What are the grounds for admitting empty set?

3

(iv) Prove that empty set is the sub-set of empty set.

5

5. (a) Explain the basic concept of set.

6

(b) Which of the following statements are true (for all sets A, B and C)?

2+2

(i) If $A \subseteq B$ and $B \subseteq C$, then $A \subseteq C$.(ii) If $A \in B$ and $B = C$, then $A \in C$.

6. Explain, in brief, the three fundamental Laws of thought.

10

OR

What is fallacy of relevance? Explain its different forms.

2+8

—x—