2007

PHILOSOPHY

PAPER—I

Full Marks : 100

Time : 4 hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Write the answer to questions of each Half in separate books.

Answer any *six* questions, taking *three* from each half.

First Half

1. (a) What is meant by '*anvīkṣā*' ?

(b) How one may distinguish between *anvīkṣikī* and *ātmavidyā* ?

(c) Can *ānvīkṣikī* be treated as *dars'ana* ?

(d) Why is the Nyāya -system popularly called *anvīkṣikī* ?

2+4+4+6

2. (a) What is *anumiti* ?

(b) What is the *karaṇa* of *anumiti* ?

(c) Can *jñāyamāna liṅga* be treated as the *karaṇa* of *anumiti* ? Answer after *Siddhāntamuktāvalī* . 4+4+8

3. (a) Explain with examples any *two* types of *anumāna* from the following : 4×2

(i) *Svabhāvahetuka anumāna*

(ii) *Kevalānvayī anumāna*

(iii) *parārthānumāna*, according to the Bauddha

(iv) *s'eṣavat anumāna*

(b) Answer in short any *four* from the following : 2×4

(i) What is *karaṇa* ?

(ii) What is *vyāpāra* ?

(iii) What, according to Buddha, are the three *rūpas* of *linga* ?

(iv) Mention the *karaṇa* and *vyāpāra* of *anumiti*, according to Visvanātha.

(v) What are the *avayavas* of *parārthānumāna*, after the Nyāya ?

(vi) What, according to Raghunath Siromani, is the *Karaṇa* of *anumiti* ?

4. (a) Explain briefly the Nyāya-concept of *pakṣatā*.

(b) Why do the Nyāya thinkers introduce the concept of *pakṣatā* in addition to *parāmars'a* as a condition of *anumiti* ? 6+10

5. (a) State and explain the initial formulation of the first definition of *vyāpti* as given in the *Bhāsāpariccheda*

(b) How does Visvanātha avoid the possibility of *avyāpti* in the first definition of *vyāpti* in cases like "*dravyam guṇakarmānyatvavis'iṣṭa satvāt*"? 8+8

6. (a) What is the *lakṣaṇa* of *hetvābhāsa* as in the Bhāṣāpariccheda ?

(b) Explain the difference between *viruddha* and *vādhita hetvābhāsa* with examples.

(c) Find out the *hetvābhāsas* (with reason) in the following *anumānas* :

(i) *vanhiranuṣṇa dravyatvāt*

(ii) *ātāma nitya ātmatvāt* .

General impression — 2

Second Half

1. (a) Use the Method of conditional proof to verify that the following is a tautology :

$$[(A \supset B) \supset B] \supset (A \vee B).$$

(b) Use the method of indirect proof to verify that the following is a tautology :

$$(P \supset Q) \vee (Q \supset P).$$

(c) Use the strengthened method of conditional proof to prove the validity of the folowing argument :

$$(A \supset B) \cdot (C \supset D)$$

$$(B \vee D) \supset \{[M \supset (M \vee N)] \supset (A \cdot C)\}$$

$$\therefore A \equiv C$$

(d) Use the *reductio ad absurdum* method of assigning truth-values to establish that the following is a tautology :

$$[(A \supset B) \supset A] \supset A$$

2. (a) Construct a formal proof of validity of the following (any two) :

(i) $(x)(\exists y)(Ex \vee Fy)$

$\therefore (x)\, Ex \vee (\exists y)\, Fy$

(ii) $(\exists x)\, Jx \vee (\exists y)\, Ky$

$(x)\, (Jx \supset Kx)$

$\therefore (\exists y)\, Ky$

(iii) $(x)\, [(\exists y)\, Byx \supset (z)\, Bxz]$

$\therefore (y)\, (z)\, (Byz \supset Bzy)$ 4+4

(b) Prove that the following argument is invalid :

$(x)(\exists y)\, (Hx \supset Iy)$

$(\exists y)(z)\, (Iy \supset Jz)$

$\therefore (x)\, Hx \supset (z)\, Jz$ 4

(c) Identify and explain all of the mistakes in the following erroneous "proof".

1. $(x)(Fx \equiv Fx) / \therefore (x)(y)(Fx \equiv Fy)$

2. $Fx \equiv Fx$ 1. U.I.

3. $(y)(Fx \equiv Fy)$ 2. U.G.

4. $(x)(y)(Fx \equiv Fy)$ 3. U.G. 4

3. (a) Construct demonstrations for each of the following :

(i) $(x)(\exists y)(Fx \supset Gy) \supset [(x)Fx \supset (\exists y)Gy]$

(ii) $[(\exists x)Fx \supset (\exists x)Gx] \supset (\exists x)(Fx \supset Gx)$ 4+4

(b) Symbolize any *four* of the following propositions. In each case, use the suggested notation :

(i) If any bananas are yellow, then some bananas are ripe. (Bx : x is a banana; Yx : x is yellow; Rx : x is ripe)

(ii) If anything is wrong, then it should be rectified. (Wx : x is wrong; Rx : x should be rectified)

(iii) If anything is damaged, the tenant wil be charged for it. (Dn : x is damaged; Cx : x will be chargd to the tenant)

(iv) Everything is attracted by something. (Axy : x attracts y)

(v) Whoever visited the building was observed. (Vx : x visited the building; Oxy : x obsrved y]

(vi) A dead lion is more dangerous than a line dog. (Lx : x is a lion; Ax : x is alive; Dx : x is a dog; Dxy : x is more dangerous than y.]

4. (a) Which of the following statements are true for all sets A, B and C? If a statement is false construct a counter example to show that the statement is not in general true.

(i) $A \neq B \ \& \ B \neq C \rightarrow A \neq C$

(ii) $A \subseteq B \ \& \ B \in C \rightarrow A \notin C$

(iii) If $A \subseteq B$ and $B \in C$, then $A \in C$

(iv) If $A \in B$ and $B \subset C$, then $A \in C$

(b) Define inclusion of two sets A and B and give an example.

(c) Explain the distinction among identity, membership and inclusion. (2×4)+3+5

5. (a) Let A = the set of all positive integers

B = {3, 5}

C = {2, 4}

D = {1, 2}

Find :

(i) $(B \cup C) \cap (B \cup D)$

(ii) $(A \sim C) \cup (A \sim D)$ 4

(b) Find

(i) $\{\Lambda, \{\Lambda\}\} \sim \{\Lambda\}$

(ii) Show the set of all subsets of the set {3, 4} 4

(c) (i) Let V = the set of al positive integers
A = the set of all even positive integers
B = the set of all odd positive integers

Find $\sim(A \cap B)$

(ii) Let V = {1, 2, 3}
P = {1, 2}
Q = {2, 3}

Find $\sim(P \cup Q)$

(d) What is domain of individuals ? Explain.

6. (a) Translate the following statements into symbolic form (*in set theoretic notation*) :

(i) Some American murderers drink coffee and tea, but not wine.

(ii) Mangoes and bananas are delicious and nutricious.

(iii) Some Frenchmen are either pholosophers or murderers

(iv) No Indian is a European.

(b) Are the following assemptions mutually consistent ?

$$C \neq \Lambda$$

$$A \cap C = \Lambda$$

$$(A \cap B) \sim C = \Lambda$$

(c) Test the validity of the following arguments by Venn diagrams. State in terms of regions of the diagram why the argument is valid or invalid.

(i) $P \cap Q \subseteq \sim R$

$P \cup R \subseteq Q$

$\therefore P \cup R = \Lambda$

(ii) All witnesses are prejudiced.

Some witnesses are not liars.

$\therefore$ Some liars are not prejudiced.

General Impression — 2
