

This question paper contains 8 printed pages]

Your Roll No. ....

5804

B.A. (Programme)/I E

PHILOSOPHY

(Logical Reasoning)

(In Lieu of Language Course)

(Admissions of 2004/2006 and onwards for the  
students of Regular Colléges/NCWEB)

Time : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Note :— Answers may be written *either* in English or in Hindi;  
but the same medium should be used throughout the  
paper.

Note :— The maximum marks printed on the question paper are  
applicable for the students of the regular colleges  
(Category 'A'). These marks will, however, be scaled up  
proportionately in respect of the students of NCWEB at  
the time of posting of awards for compilation of  
result.

Attempt *all* questions.

P.T.O.

## Section A

1. (a) Explain the relation of opposition among the four categorical propositions. 6

Or

What is the problem of existential import ? Can it be resolved ? Discuss.

- (b) With the help of examples distinguish between : 4

Truth and Validity

Or

Inference and argument.

2. (a) Give the converse and obverse of any *two* of the following : 4

(i) Some dogs are white pets.

(ii) All flowers are attractive.

(iii) No painters are affluent.

- (b) Test any *one* of the following moods for their validity/invalidity, and state the syllogistic rules broken and the fallacies committed, if any :

6

(i) AEA---I

(ii) AOI---IV

### Section B

- (a) Using the truth table method determine whether the following are tautologous, contingent or contradictory (do any *one*) :

5

(i)  $[(p \supset q) \supset (p \vee \sim q)] \supset (p \equiv q)$

(ii)  $[(q \supset \sim p) \bullet \sim p] \supset (p \vee r)$

(iii)  $[(p \bullet q) \vee (\sim p \bullet \sim q)] \equiv (p \supset p)$

(b) Using the shorter truth table method determine the validity/invalidity of the following (do any one) 5

(i)  $p \supset q$

$q \supset r$

$\therefore p \supset r$

(ii)  $[(p \vee q) \bullet \sim(\sim p \bullet \sim q)]$

(iii)  $\therefore (p \supset q) \vee p$

4. (a) Symbolise any four of the following : 4

(i) It is not the case that if he is a good leader, he is intelligent. (L, S)

(ii) Madras is the capital even though the Ooty is a hill station. (M, O)

(iii) The captain will go abroad only if he gets a scholarship. (C, S)

- (iv) If mathematics is studied, then one can study statistics. (M, S)
- (v) He will neither win a prize, nor will he get a scholarship. (W, G)
- (vi) The match will be played if and only if the sun is shining. (M, S)
- (b) Define ' $p \equiv q$ ' in terms of the stroke function. 3
- (c) Define ' $(p \vee q) \supset p$ ' or ' $(q \supset p) \vee q$ ' in terms of conjunction and negation. 3
5. (a) Using only the nine rules of inference construct a formal proof of validity for any *one* of the following : 5

$$(i) (A \vee B) \supset (C \bullet D)$$

$$(C \vee D) \supset E$$

$$A / \therefore E \bullet C$$

$$(ii) \quad P \supset Q$$

$$P \vee (R \bullet S)$$

$$\sim Q \bullet \sim T / \therefore R \vee Q$$

- (b) Symbolize any *five* of the following with the help of propositional functions and quantifiers, using the suggested notations : 5

(i) Only women are members. (Wx, Mx)

(ii) College students are eligible for scholarships.

(Cx, Sx)

(iii) Singers are rarely given concessions. (Sx, Cx)

(iv) Many paintings are expensive items. (Px, Ex)

(v) Parrots are green birds. (Px, Gx)

(vi) Snakes are poisonous. (Sx, Px)

(vii) Bats are mammals. (Bx, Mx)

6. (a) Distinguish between strong and weak sense of 'or'. 5

Or

Write a brief note on the use of symbols in logic.

- (b) Given that A, B, C are true and X, Y, Z are false, determine the truth value of any two of the following : 5

(i)  $[C \vee \sim (A \supset B)] \supset \sim [X \supset (Y \vee \sim Z)]$

(ii)  $[\sim A \supset (B \vee C)] \supset [X \supset (Y \vee \sim Z)]$

(iii)  $[Y \vee (B \bullet \sim C)] \supset \sim [\sim A \vee \sim X] \bullet Z$

### Section C

7. (a) Distinguish between fallacy of composition and fallacy of division. 10

Or

Distinguish between fallacy of appeal to pity and fallacy of appeal to emotion.

(b) Identify and explain the fallacies in any *two* of the following : 5

- (i) Ria is Sheita's class-mate, so they must be good friends.
- (ii) Mohan is the only child, it follows then that he has no brother or sister.
- (iii) He is a psychologist, and he has advised that I must buy an Avon cycle. Therefore I will buy that only.
- (iv) The best policy to defend yourself is to become offensive.