

3 (Sem-1) PHL M 1

Bijni College Library  
P.O.-Bijni, Dist.-Chirang  
(B.T.A.D) Assam.

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PHILOSOPHY

( Major )

Paper : 1.1

( Logic-I )

Full Marks : 80

Time : 3 hours

*The figures in the margin indicate full marks  
for the questions*

1. Answer the following/Fill in the blank :

1×10=10

(a) "The logician is not concerned with the process of inference, but with the propositions that are the initial and end points of that process, and the relationships between them." Do you consider it to be true?

(b) "Only a deductive argument involves the claim that its premises provide absolutely conclusive grounds." Is it true?

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- (c) The validity of an argument depends on what—form or matter?
- (d) Is  $\sim p$  a truth-function?
- (e) Under what condition, a disjunctive function is false?
- (f) What will be the truth-value of  $p \supset q$ , if both  $p$  and  $q$  are false?
- (g) Can a false proposition imply a true proposition?
- (h) State the name of the proposition which can be analysed into two or more simple propositions.
- (i) "This line is either straight or curved." Is it an example of alternative proposition?
- (j) Two sets having the same members are called —.

2. Answer very briefly :

$2 \times 5 = 10$

- (a) What is an argument?
- (b) Give an example of any one form of truth-functions with the truth-table.
- (c) Define implicative proposition.
- (d) What do you mean by a member of a set?
- (e) What is a finite set?

3. Answer briefly (any four) : 5×4=20
- (a) Analyse the structure of an argument.
  - (b) Write an explanatory note on argument form.
  - (c) How do you distinguish between logical constants and variables?
  - (d) What do you understand by conjunctive proposition and disjunctive proposition?
  - (e) What is an empty set?

4. What is logic? Does the study of logic help one to distinguish between valid and invalid arguments? Explain. 2+8=10

Or

Explain the relation between the validity or invalidity of an argument and the truth or falsehood of its premises and conclusion. 10

5. Explain the truth-table method of determining the validity of arguments with suitable example. 10

Or

Find out which of the following are tautologies by using the truth-table method :  $5 \times 2 = 10$

(a)  $\sim (p \cdot q) \supset (\sim p \vee \sim q)$

(b)  $(p \supset q) \supset \{(p \supset q) \vee r\}$

6. What is a simple proposition? Define each of the different forms of simple proposition with examples. 2+8=10

Or

Explain the nature of general propositions with examples. 10

7. What do you mean by operations on sets? Explain the following sets : 2+8=10

$A \cap B$  and  $A \cup B$

Or

What is a set? Symbolise the following by means of set notations : 10

- (a) All scientists are rationalists.
- (b) Some students are sincere and hardworking.
- (c) No roses are daisies.
- (d) Some singers are not lyrists.

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