

This question paper contains 3 printed pages

Sl. No. 07 Q.P. : 8075
Name of the Course : B.A. - . (Prog.) (In lieu of MIL)
Semester : III
Name of the Paper : Introduction to Logic
Unique Paper Code : 62101347
Duration : 3 Hours
Maximum Marks : 75

GIC

Instruction for Candidates

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

Attempt all questions.

1. Write short notes on the following: (any two) 2 x 5 = 10
 - (i) Truth and Validity
 - (ii) Deduction and Induction
 - (iii) The relation between premises and conclusion in an argument

2. Do any one of the following. 5
 - (i) What is distribution of terms in a Categorical Proposition?
 - (ii) Explain quality and quantity of a Categorical Proposition.

3. If 'Some students are intelligent' is **false**, state its opposite propositions and determine their truth values. 6

4. Translate the following sentences into Standard Form Categorical Proposition and also mention the type of the proposition. (any four) 4 x 1½ = 6
 - (i) All that glitters is not gold.
 - (ii) Soldiers are never coward.
 - (iii) Few politicians are socialists.
 - (iv) Only human beings are rational.
 - (v) None but the hard workers are winners.
 - (vi) All roses are not white.
 - (vii) Old age people are generally religious.

5. Give the Conversion, Obversion and Contraposition of the following: (any two) 8
 - (i) No sinners are saints.
 - (ii) Some soldiers are not officers.
 - (iii) All Gujratis are Indians.

6. Arrange the following arguments in the Standard Form Categorical Syllogism and also mention its Figure and Mood. (any two) 2 x 3 = 6

- (i) No economists are scientists, so some scientists are genius, because some genius are not economists.
- (ii) Since all Indians are tolerant and some intellectuals are tolerant; obviously some Indians are intellectuals.
- (iii) No dancers are painters, for all actors are dancers and no actors are painters.

7. Using rules of syllogism check the validity/invalidity of the following: (any two) 2 x 4 = 8

- (i) IAI-I
- (ii) AEE-II
- (iii) EAE-III

8. Symbolize the following statements: (any five) 5

- (i) Neither Ethics nor Logic are difficult. (E, L)
- (ii) Raman is both intelligent and hardworker. (I, H)
- (iii) He will join Oxford if and only if he scores well in his B A examination. (J, S)
- (iv) Unless it rains in time, crop will not be good. (R, C)
- (v) Although he worked hard but could not score well in examination. (W, R)
- (vi) Sindhu and Bindu will not both be qualified for next Olympic. (S, B)
- (vii) Either he will go to the college or to the market. (C, M)

9. If P, Q and R are true, and X, Y and Z are false then what will be truth value of following. (any two) 2 x 3 = 6

- (i) $(P \supset Y) \vee (Z \cdot \sim R)$
- (ii) $(X \cdot Q) \supset (P \vee Z)$
- (iii) $(\sim Z \vee R) \cdot (P \supset X)$

10. Determine the logical status (tautology, etc.) of the following through Truth Table Method. (any one) 5

- (i) $(p \supset p) \supset (q \cdot \sim r)$
- (ii) $\sim [(\sim p \supset r) \vee (\sim q \supset p)]$

11. Use Truth Table Method to test the validity/invalidity of any one of the following. 5

- (i) $(p \vee q) \supset r$
 $\sim p$
 $\therefore \sim (p \vee q)$
- (ii) $p \supset q$
 $\sim q \vee r$
 $\therefore p \supset r$

12. Test the validity/invalidity of the following argument forms using Shorter Truth Table Method. (any one) 5

(i) $(p \supset q) \supset r$
 $\sim r$
 $\therefore p \vee q$

(ii) $p \vee q$
 $r \cdot \sim q$
 $\therefore p \supset r$