

24/6/23

Vidyasagar College For Women  
Internal examination 2023  
MTMA Semester-4

Date: 24.06.2023

SEC-B

Time: 7:30AM

## Mathematical Logic

Full Marks: 10

Time: 30 min

All questions carry 2 marks (1 for correct answer and 1 for explanation)

CU Roll No.:

CU Reg. No.:

- 1) What is the converse of the following assertion? "I stay only if you go."  
a) I stay if you go.                      b) If I stay then you go.  
c) If you do not go, then I do not stay.                      d) If I do not stay then you go.
- 2) The truth value of  $(p \vee q) \wedge (p \vee \sim q)$  depends on truth value of  
a)  $p$                       b)  $q$                       c) both  $p$  and  $q$                       d) none of these

3)  $(p \Rightarrow q) \Leftrightarrow (\sim p \vee q)$  is a

- a) contradiction      b) tautology      c) contingency

d) none of these

4) From the premises  $\sim p$  and  $p \vee q$  one can conclude

- a)  $p$                       b)  $q$                       c)  $p \wedge q$

d) none of these

5) What is the logical validity of the following argument:

Some odd integers are prime.

9 is an odd integer.

Therefore 9 is prime.

- a) valid                      b) invalid                      c) can't be judged

d) none of these