# Hibernia College Section 3 Logic

Question 3

Let ***S***= {10,11,12,13,14,15,16,17,18,19,20}

n ***S***

* p : n is a multiple of two
* q : n is a multiple of five

Express the following statement using logic symbols n is not a multiple of either 2 or 5.

List the elements of S which are in the truth set for the statement in (ii).

Write the contra-positive of the following statement concerning an integer n.

If the last digit of n is 4, then n is divisible by 3

Symbolic Statements

Propositions

The Negation of a Proposition

Compound statements

Truth Tables

Tautologies

Contradictions

Double Negation Law

De Morgan's Laws

NOT( P AND Q) = NOT(P) OR NOT (Q)

NOT( P OR Q) = NOT(P) AND NOT (Q)

The Conditional Connectives

Introduction

If and Only If

## 3.4 Logic Gates

NOT gates

AND gates

OR gates

Designing Logic Networks

Output of a given network