# Assignment 7

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## 1  Question

For any two statements p and q the negation of expression p $\bigvee$ ( p $\bigwedge$ q) is:

1. $\sim$p $\bigwedge$ $\sim$q

2. p $\bigwedge$ q

3. p $\leftrightarrow$ q

4. $\sim$p $\bigvee$ $\sim$q

The correct answer is (1).

## 2  Boolean Expression

$$F = \bar{p}\,\bar{q} \tag{1}$$

using NAND logic, we get the following equation

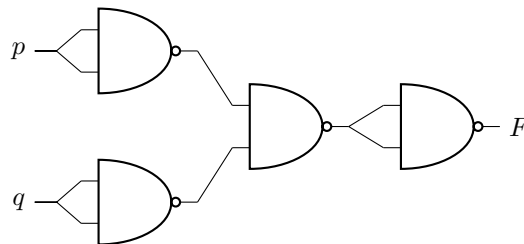$$F = \overline{\overline{\overline{p}\,\overline{q}}} \tag{2}$$

## 3  Circuit Diagram



Figure 1: Logic gates