



University of Colombo School of Computing

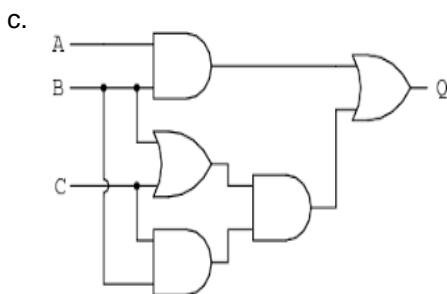
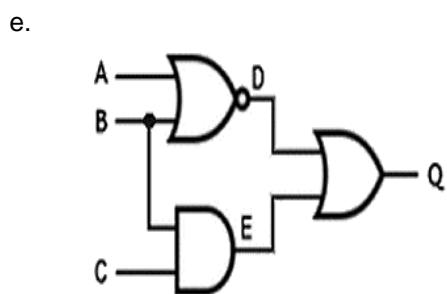
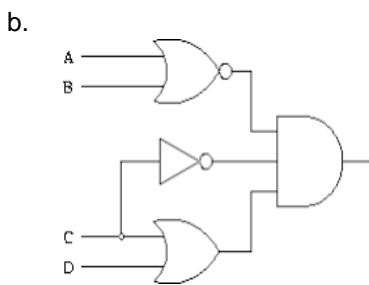
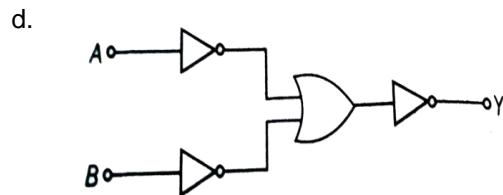
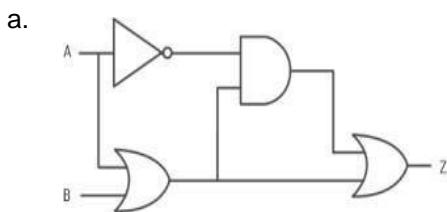
IS 1202 – Computer Systems

Data Representation (Logic Gates)

1. Draw the logic circuits for following expressions

1.  $F = (x + y)(x + y')$
2.  $F = (x + y)'(x \cdot y)$
3.  $F = (x \cdot y)' + z$
4.  $F = (x \oplus y) \cdot (x \oplus y)'$
5.  $F = (x \cdot y \cdot z) \cdot (x \cdot y') \cdot (x + y)$
6.  $F = (A \cdot B \cdot C) \cdot (A + B) \cdot (A + C)'$

2. Find the logic expression for the following logic circuits



3. Draw the truth tables for the following Boolean expressions

1.  $A(B + C)$
2.  $(A+B)(\overline{C} \cdot A)$
3.  $\overline{ABC} + \overline{ABC}$