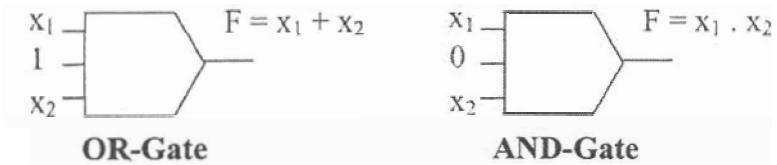
Worksheet 8
EEL 4705
Emerging Logic Devices – AND/OR Mapping

Group #: 9 U IDs: [redacted]

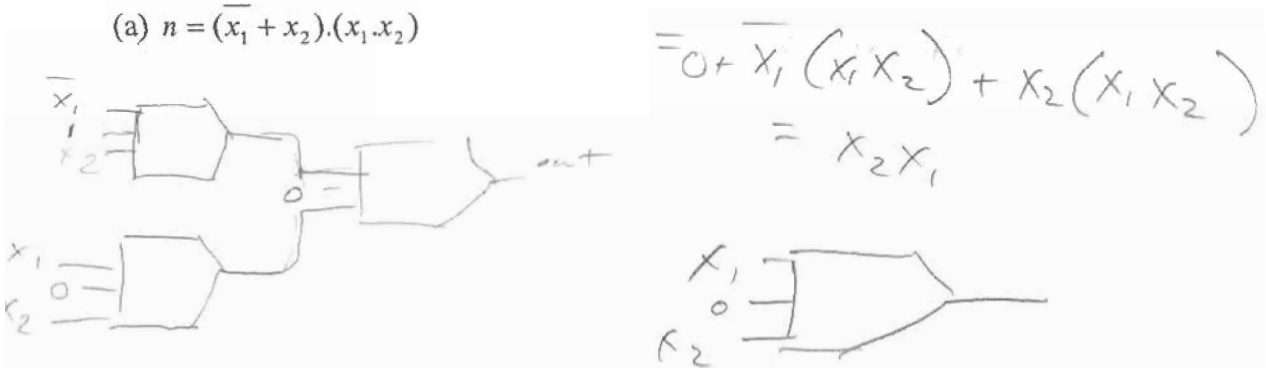


Question: Convert the following Boolean Logic expressions into equivalent Majority Gate Logic by using AND/OR mapping method demonstrated previously making use of the AND and OR forms as indicated above.

Use the method to first perform a direct AND/OR mapping of the expression. Then see if the expression can be further reduced to a simpler logic form and perform an AND OR mapping of the reduced expression.

Example: $n = x_1.\overline{x_2} + \overline{x_2}.x_3$ *can be further reduced to* $n = (x_1 + x_3).\overline{x_2}$ *. Similarly, for all the equations below perform the AND/OR mapping for the original expression and the reduced form of the expression.*

(a) $n = (\overline{x_1} + x_2).(x_1.x_2)$



(b) $n = \overline{x_1.x_3} + x_2.\overline{x_3}$