Dr. Bassem Al-Halabi, S&E362 October 7, 2000

Name: Grade: /10

[4] **1)** For the following given function, F, find the minterm and Maxterm expansions in canonical SOP and POS forms, respectively, for both F and its complement.

$$F(A,B,C) = \sum m(1,3,4,7)$$

F (SOP) = _____

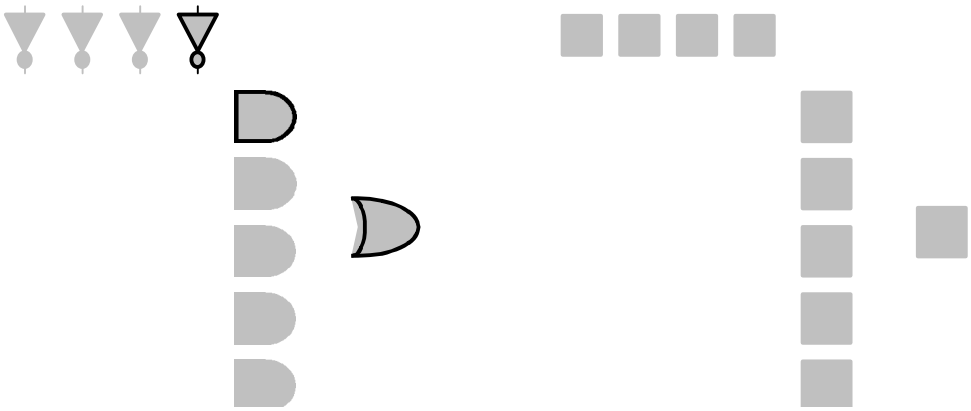
F (POS) = _____

F (SOP) = _____

F (POS) = _____

[4] **2)** Implement the following function using a NOT-AND-OR network and then convert the network to all NAND network. (Please, use straight lines for connections. Use shaded areas to neatly outline your gates)

$$F = A\,\overline{C}\,D + A\,\overline{B}\,\overline{C} + \overline{A}\,B + \overline{D}$$



[2] **3)** Dave can eat Candy (C) if he does his Homework (H) and he does *not* make a Mess (M), or if his father is Happy (F), or if his sister is *not* Jealous (J). Write a Boolean expression for C as a function of the four variable, H, M, F, and J.

C= _____