Galala University, Faculty of Computer Science and Engineering

CSE 131 Logic Design

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Homework 5

Problem 18:

Convert the following to the other canonical form:

(a) $F(x, y, z)= \sum(1,3,7)$ (b) $F(A,B,C,D)= \prod(0,1,2,3,4,6,12)$

Problem 21:

Show that the dual of the exclusive-OR is equal to its complement.

Dual of XOR: $= (X + Y') \bullet (X' + Y)$

Complement of XOR (XNOR)= $(X \oplus Y)'$

Problem 23:

Show that a positive logic NAND gate is a negative logic NOR gate and vice versa.