CSE345 Digital Logic Design

Course Outcome: CO4

Program Outcome: PO3

Cognitive Level: C3, C6

Psychomotor Level: P2, P3

Affective Level: A2

Knowledge Profile: K4, K5

Complex Engineering Problem: EP1, EP2

Project-1

2’s Complementor

Fig. 1

Fig.1 shows a 4-bit 2’s Complementor. $ABCD$ are 4-bit inputs and $wxyz$ are 4-bit outputs. 4-bit value $wxyz$ is the 2’s complement of 4-bit value $ABCD$. 2’s complement of 0000 is 0000.

Project-2

BCD to Excess-3 Code Generator

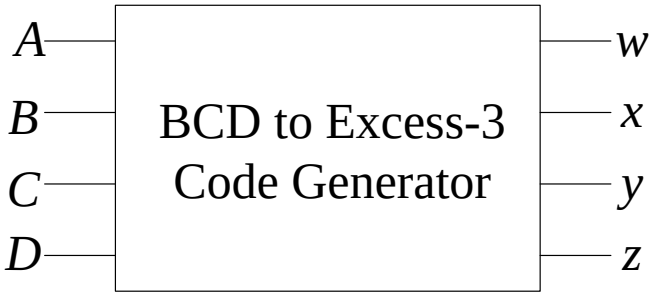

Fig. 2

Fig.2 shows a BCD to Excess-3 Code Generator. BCD is a 4-bit code for 10 digits. For example, 0,1,2 are represented by 0000,0001,0010, etc. The output is 3 greater than the input. For example, if the input is 0000, then the output is 0011.

Marks Distribution

Assessment Area	Mark
C3: Cognitive: Applying	2
C6: Cognitive: Creating	5
P2: Psychomotor: Manipulation	1
P3: Psychomotor: Precision	1
A2: Affective: Responding	1
Total	**10**

Project Report will include

1. Problem Statement
2. Design Details
3. Circuit Diagram
4. Behavioral Verilog Code (Procedural Model and Continuous assign Statement) and Simulation Result (Screenshots)

Note: Odd digit will undertake Project-1 and even digit will undertake Project-2.