

COE 202, Term 112

Digital Logic Design

Assignment# 1

Due date: Sat. March 17

- Q.1.** You are required to design a circuit that receives a 4-input number X and produces the result of multiplying the number by 3 i.e. $3*X$.
- (i) Show the truth table for the circuit to be designed.
 - (ii) Derive a minimum sum of product expressions for the circuit outputs.
 - (iii) Implement your circuit using logic works.
 - (iv) Demonstrate the correctness of your circuit for the following inputs: 0, 3, 7, 10, 15. Include simulation snapshots.