Parul Institute of Engineering & Technology Electronics & Communication Engineering Department

ASSIGNMENT-3

Subject Name: DIGITAL ELECTRONICS

Subject Code: 203105201

(Chapter-3-Combinational Logic)

1. Design the Combinational Circuits for Binary to Gray Code Conversion. **2.** Explain Design Procedure for Combinational Circuit & Difference between Combinational Circuit & Sequential Circuit.

3. Construct 4*16 Decoder with help of 2*4 Decoder.

4. Discuss 4 bit BCD Adder in Detain.

5. Explain 4 bit Magnitude Comparator.

6. Explain comman cathode types seven segments displays.

7. Design combinational circuits for a full adder.

8. Design a full-adder with two half-adders and an OR gate

9. Design a combinational circuit for a full subtractor.

10. Design combinational circuits for a half adder.

11. Design a combinational circuit for a half subtractor.

12. Design a combinational circuit whose input is a four bit number and whose Output is the 2's complement of the input number.

13. Draw symbol and truth table for four input EX-OR and EX-NOR gate. Explain NAND and NOR as an universal gate.

14. Design BCD to Excess-3 code converter using minimum number of NAND gates.

15. Simplify Boolean function F (w,x,y,z) = Σ (0,1,2,4,5,6,8,9,12,13,14) using K-map