Department of Computer Engineering

ASSIGNMENT: (Use Journal pages to solve assignment)

EXPT.No.01
1. What are the differences between Full adder and Full subtractor circuit?
2. Justify, The parallel adder is most suitable adder circuit to speed up the operation process?
3. Design of half adder and half subtractor circuit using universal Logic gates?
4. Design of Full adder circuit using half adder circuit?
5. Design of Full subtractor circuit using half subtractor circuit?

EXPT.No.02
1. What is a need of code conversion?
2. Justify code converter circuit is a combinational logic circuit?
3. What do you mean by Gray code, BCD Code, Excess-3 code?
4. Why Excess-3 code is called as a self - complementary code?
5. What are the applications of Gray code?
6. Why gray codes are used in K-Map simplification?
7. What are the properties of gray code?

EXPT.No.03
1. What do you understand by Look Ahead Carry Generation circuit?
2. What are the features of IC-74LS83?
3. Why is six added to make valid BCD?
4. Why subtractors IC are not available in market?
5. What is meant by BCD subtraction? What are the methods?
6. What is the maximum input that can be applied to BCD adder IC?
7. Design of BCD adder circuit using IC-74LS83 and NAND gates?
8. Why EX-OR gates are used in BCD subtractor circuit?

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EXPT.No.04

1. What are the features of IC-74LS153 and IC-74151?

2. List of different MUX ICs ?

3. What is a Role of Select input in multiplexer circuit?

4. Realization of 2:1 MUX. using logic gates?

5. Design of 4-bit binary to 4-bit gray code converter circuit using IC-74LS153?

6. Design of BCD to Exces-3 code converter circuit using IC-74153?

7. Design of 16:1 Multiplexer using 4:1 Multiplexer?

8. Realize 2-input EX-OR logic gates using 2:1 MUX?

9. What are the feature of IC-74138 and IC-74154?

10. List of different DEMUX ICs?

11. Realization of 1:2 DE-MUX /Decoder circuit using logic gates with chip enable input?

12. What is a difference between DEMUXand Decoder circuits?

13. Justify, decoder as a ROM?

14. Design of any four variable function using IC-74138 and IC-74154?