

Some codes

You need to be alert to (usually minor) changes that may be made to the assignment statement or to the guidelines after the assignment is first put up. Refresh this frame and re-read the assignment carefully before you make your final submission.

Part 1 (BCD)

Develop circuits to convert from 4-bit binary to 2-digit BCD

Part 2 (Gray)

Develop circuits to convert from 4-bit Gray to 4-bit binary and vice-versa

Part 2 (Excess-3)

- Develop a half adder for handling two bits
- Develop a full adder using half adders and any additional logic
- Develop a ripple carry adder needed for this assignment using full adders
- Develop circuits to convert from excess-3 to 4-bit binary and vice-versa

Marking guidelines

Assignment marking is to be done only **after** the deadline expires, as submissions gets blocked after the assignment is marked. Enter the breakup of marks while marking.

4-bit BCD	
Correctly working circuit for binary to BCD	10
Labels and other parts	5
4-bit Gray	
Correctly working circuit for binary to Gray	10
Correctly working circuit for Gray to binary	10
Labels and other parts	5
4-bit Excess-3	
Correctly working half adder circuit	4
Correctly working full adder circuit	6
Correctly working ripple carry adder circuit	10
Correctly working circuit for excess-3 to binary	10
Correctly working circuit for binary to excess-3	10
Labels and other parts	5
Total Marks	85

Assignment submission

A PDF report, as appropriate, should be submitted. Submit all your files together.

Use electronic submission via the [WBCM link](#)

You should keep submitting your incomplete assignment from time to time after making some progress, as you can submit any number of times before the deadline expires. **You should submit all your files together.**

Warning

Cases of copying will be dealt with seriously and severely, with recommendation to the Dean to de-register the student from the course.