Assignment report submission guide lines

Guide lines to students:

1. **Find you assignment:**

   Find the page with your Name and roll number and, solve only those 6 questions.

2. **Preparing the solution of the Assignment**

   Write your name, roll number, section and registration number on each and every page. the page which will not carry these 4 details will not be considered for evaluation.

3. **Submission**

   After solving the assignment of A4 size paper, I will recommend you the "Microsoft Office Lens - PDF Scanner" app to convert your images to **Black & white** and then **into PDF**. It will be good.

   Link for "Microsoft Office Lens - PDF Scanner" app:

   https://play.google.com/store/apps/details?id=com.microsoft.office.officelens&hl=en_IN

4. **Submission Mode**

   Upload the file on UMS Only, no other way of submission will be acceptable.

Very important Instructions:

1. Use the white pages only, don't use the rough sheets. Prefer A4 size pages.
2. Prefer to use blue/Black pen, and **highlight Question Number and headings**.
3. Start every question from new page.
4. The content should be neatly written and visible, and avoid cutting text.
5. If any student fails to submit the Assignment as per the submission date, his/her marks will be uploaded as Zero.

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Sailesh Pubial

Registration Number: 12001918   **Roll Number: RK20BEA01**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-101)_{10}$ and $(-70)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(100)_2}{(100)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(C7)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Name: Bachhu Jaswanth

Registration Number: 12001934　　　　　　**Roll Number: RK20BEA02**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-102)_{10}$ and $(-70)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1001)_2 - (0100)_2)\left(\frac{(100)_2}{(10)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(C6)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Koneti Venkata Tharun Reddy

Registration Number: 12001692   **Roll Number: RK20BEA03**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-103)_{10}$ and $(-70)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0111)_2 - (0010)_2)\left(\frac{(1100)_2}{(100)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(C5)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14\,)\,.\,d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Nelluri Mahesh Babu

Registration Number: 12002587   **Roll Number: RK20BEA04**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-104)_{10}$ and $(-70)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(1000)_2}{(10)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(C4)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15)\,.\,d(0,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Vallabhaneni Prudhvi Sai

Registration Number: <u>12002918</u>   Roll Number: <u>RK20BEA05</u>

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-105)_{10}$ and $(-70)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(10100)_2}{(100)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(C3)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Name: Polavena Venkatesh

Registration Number: 12003618   **Roll Number: RK20BEA07**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-107)_{10}$ and $(-70)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(1110)_2}{(10)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(C1)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Sangaraju Guru Vishnuvardhan Raju

Registration Number: <u>12003495</u>   Roll Number: <u>RK20BEA08</u>

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-108)_{10}$ and $(-70)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1010)_2 - (0101)_2)\left(\frac{(100000)_2}{(100)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(C0)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,2,7,8,11,12,14) + d(3,5)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Chamarthi Manoj Kumar Raju

Registration Number: 12003450   **Roll Number: RK20BEA10**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-110)_{10}$ and $(-70)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0101)_2 - (0110)_2)\left(\frac{(10100)_2}{(10)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(BE)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. **Design the Full subtractor circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Janyavula Karthikeswar

Registration Number: <u>12003204</u>   **Roll Number: <u>RK20BEA11</u>**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-111)_{10}$ and $(-70)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1001)_2 - (0100)_2)\left(\frac{(101100)_2}{(100)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(BD)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Name: Deblina Das

Registration Number: 12003888   **Roll Number: RK20BEA12**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-112)_{10}$ and $(-70)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(11000)_2}{(10)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(BC)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Ripu Bhushan Singh

Registration Number: 12003949   **Roll Number: RK20BEA13**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-113)_{10}$ and $(-70)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(110100)_2}{(100)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(BB)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14\ ) . d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Abhishek Choudhary

Registration Number: 12004591   Roll Number: RK20BEA14

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-114)_{10}$ and $(-70)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0110)_2 - (0001)_2)\left(\frac{(11100)_2}{(10)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(BA)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15) \cdot d(0,2)$$

Name: Shibu Kumar

Registration Number: 12004889   **Roll Number: RK20BEA15**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-115)_{10}$ and $(-70)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(111100)_2}{(100)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(B9)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. **Design 3-bit gray to binary converter using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Shishank Debnath

Registration Number: 12005057   **Roll Number: RK20BEA16**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-116)_{10}$ and $(-70)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(100000)_2}{(10)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(B8)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Koripelli Pavan

Registration Number: 12005630   **Roll Number: RK20BEA18**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-118)_{10}$ and $(-70)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0101)_2 - (0110)_2)\left(\frac{(1001000)_2}{(100)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(B6)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,2,7,8,11,12,14) + d(3,5)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Dhiraj Upadhyay

Registration Number: 12006499   **Roll Number: RK20BEA19**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-119)_{10}$ and $(-70)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(100110)_2}{(10)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(B5)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

Name: Amanpreet Kour

Registration Number: 12006521   Roll Number: RK20BEA20

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-120)_{10}$ and $(-70)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0110)_2 - (0001)_2)\left(\frac{(1010000)_2}{(100)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(B4)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. **Design 3-bit gray to binary converter using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Umang Kumar

Registration Number: 12006142   **Roll Number: RK20BEA21**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-121)_{10}$ and $(-70)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0111)_2 - (0010)_2)\left(\frac{(101010)_2}{(10)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(B3)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Mylavarapu Sreepada Bharadwaj

Registration Number: <u>12005891</u>   Roll Number: <u>RK20BEA22</u>

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-122)_{10}$ and $(-70)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0110)_2 - (0001)_2)\left(\frac{(1011000)_2}{(100)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(B2)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14) \cdot d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Prakhyat Singhal

Registration Number: 12005809   **Roll Number: RK20BEA23**

Note: Each question carries 5 Marks.

1. Perform the addition $(-123)_{10}$ and $(-70)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(101110)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(B1)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15) \,.\, d(0,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Kotana Satya Sai Ganesh

Registration Number: 12005827   **Roll Number: RK20BEA24**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-124)_{10}$ and $(-70)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(1100000)_2}{(100)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(B0)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Debasish Borah

Registration Number: 12007776   **Roll Number: RK20BEA25**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-125)_{10}$ and $(-70)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1011)_2 - (0110)_2)\left(\frac{(110010)_2}{(10)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(AF)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. **Design the Full adder circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Nalli Shiva

Registration Number: 12008888   **Roll Number: RK20BEA26**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-126)_{10}$ and $(-70)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(1101000)_2}{(100)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(AE)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,2,7,8,11,12,14) + d(3,5)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Gatadi Varshith

Registration Number: <u>12009549</u>   Roll Number: <u>RK20BEA27</u>

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-127)_{10}$ and $(-70)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(110110)_2}{(10)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(AD)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

Name: Kolla Devendra Praneeth
Registration Number: <u>12010162</u>   Roll Number: <u>RK20BEA28</u>
Date of allotment: 22 February 2021
Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-128)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0111)_2 - (0010)_2)\left(\frac{(1110000)_2}{(100)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(AC)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Aman Jaiman

Registration Number: 12010331   **Roll Number: RK20BEA29**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-129)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0110)_2 - (0001)_2)\left(\frac{(111010)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(AB)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Tirtharaj Paul

Registration Number: <u>12011819</u>   **Roll Number: <u>RK20BEA30</u>**

Note: Each question carries 5 Marks.

1. Perform the addition $(-130)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(1111000)_2}{(100)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(AA)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14) \cdot d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Prakhar Singh

Registration Number: 12012088   **Roll Number: RK20BEA31**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-131)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(111110)_2}{(10)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(A9)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15) \cdot d(0,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Mohit

Registration Number: 12012540   **Roll Number: RK20BEA33**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-133)_{10}$ and $(-130)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0101)_2 - (0110)_2)\left(\frac{(10000100)_2}{(100)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(A7)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. **Design 3-bit gray to binary converter using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Paramjeet

Registration Number: <u>12013003</u>   Roll Number: <u>RK20BEA35</u>

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-135)_{10}$ and $(-130)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1000)_2 - (0011)_2)\left(\frac{(1000110)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(A5)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Ayushi Singh

Registration Number: 12013250   **Roll Number: RK20BEA36**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-136)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0101)_2 - (0110)_2)\left(\frac{(10010000)_2}{(100)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(A4)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,2,7,8,11,12,14) + d(3,5)$$

Name: Sachin Choudhary

Registration Number: 12013255   **Roll Number: RK20BEA37**

Note: Each question carries 5 Marks.

1. Perform the addition $(-137)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1010)_2 - (0101)_2)\left(\frac{(1001010)_2}{(10)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(A3)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Kiran Kumari

Registration Number: <u>12014132</u>   **Roll Number: <u>RK20BEA39</u>**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-139)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0111)_2 - (0010)_2)\left(\frac{(10011100)_2}{(100)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(A1)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Name: Perumalla Siva Gopi

Registration Number: 12014666   **Roll Number: RK20BEA40**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-140)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1011)_2 - (0110)_2)\left(\frac{(1010000)_2}{(10)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(A0)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Shaik Mahaboob Subhani

Registration Number: 12014653   **Roll Number: RK20BEA41**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-141)_{10}$ and $(-130)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1000)_2 - (0011)_2)\left(\frac{(10100100)_2}{(100)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(9F)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14) \cdot d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Arpit Gupta

Registration Number: 12014337   **Roll Number: RK20BEA42**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-142)_{10}$ and $(-130)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(1010100)_2}{(10)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(9E)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15) \cdot d(0,2)$$

Name: Abhishek Sharma

Registration Number: <u>12014674</u>   Roll Number: <u>RK20BEA44</u>

<mark>Date of allotment: 22 February 2021</mark>

<mark>Last Date of submission: 05 March,2021</mark>

Note: Each question carries 5 Marks.

1. Perform the addition $(-144)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1001)_2 - (0100)_2)\left(\frac{(10110000)_2}{(100)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(9C)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Subham Ghosh

Registration Number: 12015859   **Roll Number: RK20BEB47**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-147)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(1011110)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(99)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. **Design the Full adder circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Divyanshi Panwar

Registration Number: 12014279   **Roll Number: RK20BEB49**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-149)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(11000100)_2}{(100)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(97)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,2,7,8,11,12,14) + d(3,5)$$

Name: Sahil Negi

Registration Number: 12014092   **Roll Number: RK20BEB50**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-150)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0111)_2 - (0010)_2)\left(\frac{(1100100)_2}{(10)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(96)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Md Moniruzzaman Piyash

Registration Number: 12013416   **Roll Number: RK20BEB51**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-151)_{10}$ and $(-130)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1011)_2 - (0110)_2)\left(\frac{(11001100)_2}{(100)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(95)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Singh Niraj Ashok

Registration Number: 12013433   **Roll Number: RK20BEB53**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-153)_{10}$ and $(-130)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1000)_2 - (0011)_2)\left(\frac{(1101010)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(93)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) . d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Doma Tharun

Registration Number: 12013232   **Roll Number: RK20BEB54**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-154)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0111)_2 - (0010)_2) \left(\frac{(11011000)_2}{(100)_2} \right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(92)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14) \cdot d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Gaurav Kumar Tripathi

Registration Number: 12012506   **Roll Number: RK20BEB55**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-155)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1011)_2 - (0110)_2)\left(\frac{(1101110)_2}{(10)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(91)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15) \cdot d(0,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Anisha Joshi

Registration Number: 12012507   **Roll Number: RK20BEB56**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-156)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(11100000)_2}{(100)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(90)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Gurram Ajay

Registration Number: 12012111   **Roll Number: RK20BEB57**

Note: Each question carries 5 Marks.

1. Perform the addition $(-157)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0110)_2 - (0001)_2)\left(\frac{(1110010)_2}{(10)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(8F)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. **Design the Full adder circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Deepak Kumar Sharma

Registration Number: 12011397   **Roll Number: RK20BEB58**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-158)_{10}$ and $(-130)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(11101000)_2}{(100)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(8E)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,2,7,8,11,12,14) + d(3,5)$$

Name: Vasireddy Aarya Chowdary

Registration Number: 12010880   **Roll Number: RK20BEB59**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-159)_{10}$ and $(-130)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0101)_2 - (0110)_2)\left(\frac{(1110110)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(8D)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Vinit Kaswan

Registration Number: 12010897   **Roll Number: RK20BEB60**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-160)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(11110000)_2}{(100)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(8C)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Akhil Jais

Registration Number: 12011001   **Roll Number: RK20BEB61**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-161)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only
$$X = ((0110)_2 - (0001)_2)\left(\frac{(1111010)_2}{(10)_2}\right) + (1001)_2 - (11)_2$$
3. Convert the BCD of $(8B)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.
$$Z = A'B + (AC)'$$
5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Name: Rakesh Roshan

Registration Number: 12011028   **Roll Number: RK20BEB62**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-162)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.

2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(11111000)_2}{(100)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(8A)_{16}$ into 7-bit left to right odd parity hamming code.

4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit binary to gray converter using k-map.

6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14) \cdot d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Bhavya

Registration Number: <u>12011088</u>   **Roll Number: <u>RK20BEB63</u>**

Note: Each question carries 5 Marks.

1. Perform the addition $(-163)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(1111110)_2}{(10)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(89)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. **Design the Full subtractor circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \prod M(3,4,8,9,11,14,15) . d(0,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Amit Yadav

Registration Number: 12011146   **Roll Number: RK20BEB64**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-164)_{10}$ and $(-130)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1011)_2 - (0110)_2)\left(\frac{(100000000)_2}{(100)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(88)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Manish Yadav

Registration Number: 12010213   **Roll Number: RK20BEB65**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-165)_{10}$ and $(-130)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1000)_2 - (0011)_2)\left(\frac{(10000010)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(87)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. **Design the Full adder circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Deepak Avinash Katuri

Registration Number: 12010217   **Roll Number: RK20BEB66**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-166)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(100001000)_2}{(100)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(86)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. **Design 3-bit binary to gray converter using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(0,1,2,7,8,11,12,14\ ) + d(3,5)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: B Maneesh Kumar Singh

Registration Number: <u>12010265</u>   Roll Number: <u>RK20BEB67</u>

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-167)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1010)_2 - (0101)_2)\left(\frac{(10000110)_2}{(10)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(85)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

Name: Prince Yadav

Registration Number: <u>12010769</u>   **Roll Number: <u>RK20BEB68</u>**

Note: Each question carries 5 Marks.

1. Perform the addition $(-168)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1110)_2 - (0011)_2)\left(\frac{(100010000)_2}{(100)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(84)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Nivedita Pal

Registration Number: 12010516   **Roll Number: RK20BEB69**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-169)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1011)_2 - (0110)_2)\left(\frac{(10001010)_2}{(10)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(83)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. **Design the Full adder circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Mayank Singh

Registration Number: 12008774   **Roll Number: RK20BEB70**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-170)_{10}$ and $(-130)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1001)_2 - (0100)_2)\left(\frac{(100011000)_2}{(100)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(82)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14) \cdot d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Rishabh Saluja

Registration Number: 12008100   **Roll Number: RK20BEB71**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-171)_{10}$ and $(-130)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0101)_2 - (0110)_2)\left(\frac{(10001110)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(81)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15) \cdot d(0,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Aditya Kumar

Registration Number: 12006075   **Roll Number: RK20BEB73**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-173)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1010)_2 - (0101)_2)\left(\frac{(100100100)_2}{(100)_2}\right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(7F)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Name: Ramandeep Kaur

Registration Number: <u>12005698</u>   **Roll Number: <u>RK20BEB74</u>**

Note: Each question carries 5 Marks.

1. Perform the addition $(-174)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(10010100)_2}{(10)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(7E)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Name: Anuraj Kumar

Registration Number: 12005602   **Roll Number: RK20BEB75**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-175)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0111)_2 - (0010)_2)\left(\frac{(100101100)_2}{(100)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(7D)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,2,7,8,11,12,14) + d(3,5)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Manish Kumar Nirmalkar

Registration Number: 12004940   **Roll Number: RK20BEB76**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-176)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only
$$X = ((0101)_2 - (0110)_2)\left(\frac{(10011000)_2}{(10)_2}\right) + (110)_2 - (11)_2$$
3. Convert the BCD of $(7C)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.
$$Y = (AB)' + BC$$
5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Anish Gupta

Registration Number: 12004767   **Roll Number: RK20BEB77**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-177)_{10}$ and $(-130)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1100)_2 - (0001)_2)\left(\frac{(100110100)_2}{(100)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(7B)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. **Design 3-bit gray to binary converter using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Deepak Tiwari

Registration Number: 12004390   **Roll Number: RK20BEB78**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-178)_{10}$ and $(-130)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0101)_2 - (0110)_2)\left(\frac{(10011100)_2}{(10)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(7A)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Asif Akhtar

Registration Number: 12004238   **Roll Number: RK20BEB79**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-179)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2) \left(\frac{(100111100)_2}{(100)_2} \right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(79)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14) . d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Saurav Singh

Registration Number: 12003653   **Roll Number: RK20BEB80**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-180)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1000)_2 - (0011)_2)\left(\frac{(10100000)_2}{(10)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(78)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15) \cdot d(0,2)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: B Bharath

Registration Number: 12003815   **Roll Number: RK20BEB82**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-182)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1010)_2 - (0101)_2)\left(\frac{(101001000)_2}{(100)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(76)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit gray to binary converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(1,2,6,7,8,10,12,14) \cdot d(13,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Divay

Registration Number: 12003253   **Roll Number: RK20BEB83**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-183)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1000)_2 - (0011)_2)\left(\frac{(10100110)_2}{(10)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(75)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. **Design the Full adder circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(0,1,6,8,10,11,12,13) + d(2,7)$$

Name: Chava Surya Rao

Registration Number: 12003493   **Roll Number: RK20BEB84**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-184)_{10}$ and $(-130)_{10}$ using 2's and 7's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1000)_2 - (0011)_2)\left(\frac{(101010000)_2}{(100)_2}\right) + (1000)_2 - (11)_2$$

3. Convert the BCD of $(74)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \Sigma m(0,1,2,7,8,11,12,14) + d(3,5)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Ambavarapu Kasi Nithin Kumar

Registration Number: <u>12003000</u>   Roll Number: <u>RK20BEB86</u>

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-186)_{10}$ and $(-130)_{10}$ using 1's and 10's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0101)_2 - (0110)_2)\left(\frac{(10101100)_2}{(10)_2}\right) + (100)_2 - (11)_2$$

3. Convert the BCD of $(72)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. **Design the Full subtractor circuit using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(3,4,8,9,11,14,15) + d(1,2)$$

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Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

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Name: Gauraw Kumar Sharma
Registration Number: 12002828   **Roll Number: RK20BEB87**

Date of allotment: 22 February 2021
Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-187)_{10}$ and $(-130)_{10}$ using 2's and 9's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1101)_2 - (0010)_2)\left(\frac{(101011100)_2}{(100)_2}\right) + (101)_2 - (11)_2$$

3. Convert the BCD of $(71)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. **Design 3-bit gray to binary converter using k-map.**
6. **Find the reduced Boolean expression for functions Y**

$$Y = \Sigma m(1,2,6,7,8,10,12,14) + d(0,15)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Rupesh Gaur

Registration Number: 12001533   **Roll Number: RK20BEB88**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-188)_{10}$ and $(-130)_{10}$ using 1's and 16's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((1000)_2 - (0011)_2)\left(\frac{(10110000)_2}{(10)_2}\right) + (110)_2 - (11)_2$$

3. Convert the BCD of $(70)_{16}$ into 7-bit left to right even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Z = A'B + (AC)'$$

5. Design the Full adder circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,6,8,10,11,12,13) \cdot d(2,14)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Tushar Chatterjee

Registration Number: 12001901   **Roll Number: RK20BEB89**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-189)_{10}$ and $(-130)_{10}$ using 2's and 15's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0110)_2 - (0001)_2)\left(\frac{(101100100)_2}{(100)_2}\right) + (111)_2 - (11)_2$$

3. Convert the BCD of $(6F)_{16}$ into 7-bit left to right odd parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$X = AB' + (BC')'$$

5. Design 3-bit binary to gray converter using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(0,1,2,7,8,11,12,14) \,.\, d(3,10)$$

Course Title: ECE213: DIGITAL ELECTRONICS
Assignment 01

Name: Tulasi Ram Charan Teja

Registration Number: 12002331   **Roll Number: RK20BEB91**

Date of allotment: 22 February 2021

Last Date of submission: 05 March,2021

Note: Each question carries 5 Marks.

1. Perform the addition $(-191)_{10}$ and $(-130)_{10}$ using 1's and 8's complement form.
2. Solve for X, show all calculation in binary number system only

$$X = ((0110)_2 - (0001)_2) \left(\frac{(10110110)_2}{(10)_2} \right) + (1001)_2 - (11)_2$$

3. Convert the BCD of $(6D)_{16}$ into 7-bit right to left even parity hamming code.
4. Write the standard SOP form, standard POS form, Min-terms and Max-terms representations of the following expression.

$$Y = (AB)' + BC$$

5. Design the Full subtractor circuit using k-map.
6. Find the reduced Boolean expression for functions Y

$$Y = \prod M(3,4,8,9,11,14,15) . d(0,2)$$