Parul University
Parul Institute of Technology
Department of Mechatronics Engineering
ASSIGNMENT-1
Subject Name: DIGITAL ELECTRONICS
Subject Code: 303105220

1. Convert the Decimal Number 250.5, 87.876 to base 3, base 4, base 7 & base 16.
2. Convert the decimal number 225.225, 865.987 to binary, octal and hexadecimal.
3. Represent the decimal number 8620 in BCD , Excess-3 , and Gray code
4. Convert the following Numbers as directed:
   (a) (52)10 = ( )2
   (b) (101001011)2 = ( )10
   (c) (11101110) 2 = ( )8
   (d) (68)10 = ( )16
5. Define: Digital System.
6. Convert following Hexadecimal Number to Decimal :
   B28, FFF, F28
7. Convert following Octal Number to Hexadecimal and Binary:
   414, 574, 725.25
8. Convert the following numbers to decimal
   (i) (10001.101)2 (ii) (101011.11101)2 (iii) (0.365)8 (iv) A3E5 (v) CDA4 (vi) (11101.001)2 (vii) B2D4

9. Perform the operation of subtractions with the following binary numbers using 2′ s complement
   (i) 10010 - 10011 (ii) 100 -110000 (iii) 11010 -10000

10. Perform the operation of subtractions with the following binary numbers using 1′ s complement
    (i) 100110 - 10011 (ii) 1000 -110000 (iii) 110101 -10000

11. Give full form for following abbreviations and explain:
    (i) ASCII
    (ii) EBCDIC
12. Explain weighted binary codes with examples.
13. Find 1's and 2's complement of following binary nos.
    (10001.101)2 (ii) (101011.11101)2
14. Find 9's and 10's complement of following binary nos.
    3405.65, 87.76