Parul Institute of Engineering & Technology

Electronics & Communication Engineering Department

ASSIGNMENT-1

Subject Name: DIGITAL ELECTRONICS

Subject Code: 203105201

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