JAYPEE UNIVERSITY OF ENGINEERING & TECHNOLOGY
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DIGITAL ELECTRONICS (14B11EC317)

Tutorial-1

Q1 **Covert the following numbers to binary:**

(i) $(53.625)_{10}$ (ii) $(2B5)_{16}$ (iii) $(735)_8$

Q2 **Covert the following number to octal:**

$(153.513)_{10}$

Q3 **Covert the following number to Hexadecimal:**

(i) $(115)_{10}$ (ii) $(235)_{10}$

Q4 **Covert the following numbers to decimal**

(i) $(1100101.1001)_2$ (ii) $(2B5)_{16}$ (iii) $(241)_5$ (iv) $(231.406)_8$

Q5 **Determine the base of the numbers in each case for the following operation to be correct.**

(i) 14/2 = 5 (ii) 24 + 17 = 40

Q6 **Convert the decimal number to base 5 : 231**

Q7 **Perform the following operation using the r's and (r – 1)'s complement:**

(i) $(-53)_8 - (37)_8$ (ii) $(23)_{10} - (48)_{10}$ (iii) $(37)_8 - (53)_8$ (iv) $(-23)_{10} - (48)_{10}$

Q8 **Perform the following operation using 1's and 2's complement method:**

(i) $(23)_{10} - (48)_{10}$ (ii) $(48)_{10} - (23)_{10}$ (iii) $(-48)_{10} - (23)_{10}$ (iv) $(23.75)_{10} - (11.5)_{10}$

Q9 **Find the r's and (r – 1)'s complement of the following numbers:**

(i) $(0990)_{10}$ (ii) $(1010101)_2$ (iii) $(25.639)_{10}$ (iv) $(25.7)_8$

Q10 **Construct a weighted binary code for the decimal digits using weights 6,3,1,1.**