ELECTRONICS ENGINEERING

ASSIGNMENT-04

Digital Systems

Note : Write answers for any FIVE questions

Q1. Define number system and number representations and explain (1) Base or radix (ii) Digits in number system (ii) Digit position in a number system [KL2]

Q2. Explain (i) decimal number system (ii) Binary number system (iii) Octal number system [KL2]

Q3. Explain (i) Hexa decimal number system (ii) Octal number system [KL2]

Q4. Explain Binary to octal number conversion and vice versa with example [KL2]

Q5. Convert following numbers to binary [KL3]

a. $(634)_8$

b. $(725.63)_8$

c. $(3FD)_H$

d. $(614.15)_7$

Q6. Obtain the 2's complement of (i) $(1011)_2$ (ii) $(10110010)_2$ [KL3]

Q7. Determine the value of x if (1) $(193)_x$=$(623)_8$ (ii) $(225)_x = (341)_8$ [KL3]

Q8. What do you interpret by SSI, MSI, LSI and VLSI circuits? [KL2]

Q9. Apply K map minimization considering one example of your choice. [KL3]

Q10. Discuss rules of Boolean algebra simplification. [KL2]

Q11. Apply K map concept to find the minimized logical expression for a logic circuit $Y = \sum m(0, 1,2,5,13,15)$. [KL3]

Q12. Convert decimal (97.231)10 to Binary, convert hexadecimal (3A9F)16 to decimal.