Exam.Code:0933
Sub. Code: 6659

2123

B.E. (Electrical and Electronics Engineering)
Third Semester
PC-EE-304: Digital Electronics

Time allowed: 3 Hours Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Attempt the following:-

a) How are negative numbers represented?

b) Express the number 2598.675_{10} in hexadecimal form.

c) Explain the term Figure of Merit for a digital IC.

d) What do you understand by Presettable Counters?

e) What are the applications of a PLA? (5x2)

UNIT - I

II. a) Design a Full Subtracter Circuit.

b) Discus an ADDER with Look-Ahead Carry (5,5)

III. a) Design a 32:1 Multiplexer using two 16:1 multiplexers and one 2:1 multiplexer.

b) Design a 2 bit Digital Comparator. (5,5)

IV. a) Convert a SR flip flop to a D flip flop

b) Explain design of a Bidirectional Shift Register. (6,4)

UNIT - II

V. a) Design a 3-bit binary UP/DOWN counter with a direction control M. Use J K Flip Flops.

b) Discuss the Successive Approximation A/D Converter. (5,5)

VI. a) Describe ROM as a PLD.

b) Explain briefly how to expand Word size and Word capacity for memory devices. (5,5)

P.T.O.

VII. Briefly describe any two of the following:-

a) Johnson Counter

b) Debounce Switch

c) JK Master Slave Flip Flop (2x5)

x-x-x