

Exam.Code:0933
Sub. Code: 6659

2122
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. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) What must be the minimum distance for a code to be an error correcting code?
- b) Express the number 0.6875 in binary form.
- c) Explain Figure of Merit for a Digital IC.
- d) What do you understand by the Modulus of a Counter?
- e) What is the advantage of JK Master Slave Configuration in flip flops? (5x2)

UNIT - I

II. a) Minimize the four variable logic function using K map technique.

$$F(A,B,C,D) = \sum m(1,4,7,10,13) + \sum d(5,14,15).$$

b) Design a Full Subtractor circuit. (5,5)

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

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

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

b) Discuss operation of a Debounce Switch. (5,5)

UNIT - II

V. a) Discuss a bidirectional Shift Register using D flip flops.

b) Discuss specifications of a Digital to Analog Converter. (5,5)

P.T.O.

(2)

- VI. a) Discuss Dual slope Analog to Digital Converter.
- b) Explain qualitatively the design of a Programmable Logic Array. (5,5)
- VII. Briefly describe any two of the following:
- a) Comparator
 - b) Successive Approximation
 - c) Totem Pole output (5,5)

x-x-x