Exam.Code:0905
Sub. Code: 6200

2074

B.E. (CSE), First Semester
ESC-X06: 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. Answer the following:-

a) Convert the binary number 10011101 to Octal.

b) What is the difference between a half adder and full adder?

c) Give two applications of A/D converters.

d) How many flip-flops are required to construct a mod-3 counter? Explain.

e) Explain Product of Sum form with suitable example. (5x2)

UNIT - I

II. Define code converter. Design a BCD-to- Gray code converter using NAND gates only. (10)

III. Convert a S-R flip flop to a J-K flip flop. (10)

IV. Write short notes on the following:-

a) Quine-McCluskey method

b) Digital Logic (2x5)

UNIT - II

V. Define shift register. Name the four basic types of shift registers, and draw a block diagram for each. (10)

VI. Discuss the Performance characteristics of D/A converters. A 5-bit digital to analog converter has a current output. When the digital input is 10000, the output current is 8 mA. Find the output current if digital input is 11111. (10)

VII. Write Short Notes on the following:

a) Johnson counter

b) Universal shift register (2x5)

x-x-x