

Exam.Code:0921
Sub. Code: 6376

1078

B.E. (Information Technology) Third Semester
ITE-303: 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:-

- Give the truth table of JK flip flop.
- Solve: $F2A9 + A151$
- What is the need for state reduction?
- What are Synchronous and Asynchronous counters.
- Define: Fan-out, Propagation Delay.

(5x2)

UNIT - I

II. Plot the following function on a K-map. Then find the minimum SOP.

$$F(A,B,C,D) = A'B' + CD' + ABC + A'B'CD' + ABC'D$$

(5,5)

III. Design a sequence generator to generate the sequence $0 \rightarrow 2 \rightarrow 4 \rightarrow 6 \rightarrow 0$ using JK flip flops. If an unknown state is found then it is initialized.

(10)

IV. Describe one Error Detecting and Correcting code.

(10)

UNIT - II

V. Explain the working of R-2R ladder DAC.

(10)

VI. Design a NOR gate using nMOS and CMOS?

(10)

VII. Explain the following:-

- ROM
- PROM
- EEPROM.

(10)

x-x-x