

221
13

B. Tech. 3rd Semester (IT) Examination, December

DIGITAL ELECTRONICS

Paper-EE-204-F

Time allowed : 3 hours]

[Maximum marks : 100]

Note : *First question is compulsory. Attempt any seven of the remaining eight and atleast one from each part of the question is compulsory.*

1. (a) What is positive and negative logic?
- (b) Explain the working of magnitude comparator.
- (c) Explain the analysis of clocked sequential circuits.
- (d) Compare latch and flip flop.
- (e) Compare RAM and ROM.

Section-A

(2)

3. (a) Realize the expression the NAND gates
 $f(A,B,C,D,E) = \Sigma (1,3,5,9,11,13,15,17)$
- (b) Which code is used in K maps and why?
- (c) Explain JK-to SR flip conversion.

Section-B

4. (a) Draw and explain full subtractor circuit.
- (b) Draw and explain BCE Adder circuit.
5. (a) Compare demultiplexer and decoder.
- (b) Explain how decimal adder works.
- (c) Realize one 16 : 1 multiplexer from 4 multiplexers.

Section-C

6. (a) Explain the working of bi-directional shift register.

- (c) Explain what is race around condition and how it is eliminated.

Section-D

8. (a) Explain designing of PAL at Register level.
(b) What is Asynchronous sequential logic? Explain it with the help of example.
9. Write short notes on :
- (a) Free state Assignments
(b) ASM
(c) Quine McClusky Method.