No. of Printed Pages : 4
Roll No. .....

220832/212832/180832
/170832/120832/030832
/031034/106544

3rd Sem / Computer, ECE, Automation & Robotics, Computer (For Speech and Hearing Impaired), ECE (For Speech and Hearing Impaired), IT, Eltx, EI, Med. Eltx., Power Eltx, Elect. & Eltx. Engg.

Subject : Digital Electronics / Digital Eltx. -I / Digital Electronics & Computer Architecture

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Base /Radix of Hexadecimal number system is _____.

a) 10 b) 8

c) 2 d) 16

Q.2 The NAND gate is AND gate followed by

a) NOT Gate b) OR Gate

c) NOR Gate d) EXOR Gate

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Simplify K-map and realize the circuit with NAND Gates only

$Y=\Sigma m(0,4,8,9,12,13)$

Q.24 Explain Master Slave J-K Flip-flop in detail.

Q.25 Write short note on any two of the following:

a) Ring counter

b) Dynamic RAM

c) D- flip flop

Q.3 In Boolean algebra, X+X=_____

a) 0 b) 1

c) X d) 2X

Q.4 A 4 variable k-map has_____ cells.

a) 9 b) 16

c) 8 d) 3

Q.5 The binary number 11001 is equivalent to decimal number

a) 25 b) 24

c) 27 d) 26

Q.6 One Byte equals to_____ bits.

a) 2 b) 4

c) 1 d) 8

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Convert decimal number $(39)_{10}$ into binary number.

Q.8 Write full form of EPROM.

Q.9 1's complement of 11001000 is_____.

Q.10 Draw symbol of NAND gate.

Q.11 Latches are_____(Edge Triggered / Level Triggered)

Q.12 _____ gate is called as inverter.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Differentiate between Analog signal and Digital signal.

Q.14 Explain NAND Gate as universal gate.

Q.15 Solve the Boolean expression:

$XY + XZ + XYZ$

Q.16 Explain J-K flip flop with diagram

Q.17 Convert $(72)_{10} = (?)_2 = (?)_8$.

Q.18 Explain any one type of Encoder.

Q.19 Explain Full Adder with diagram.

Q.20 Explain R/2R D/A converter.

Q.21 Differentiate between latch and flip-flop.

Q.22 Explain 8:1 multiplexer.