No. of Printed Pages : 4
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220832/212832

3rd Sem. / Computer, ECE, Automation & Robotics, Computer (For Speech and Hearing Impaired), ECE (For Speech and Hearing Impaired)
Subject : Digital Electronics

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 A half adder consists of _____ CO-3

a) 1 Input 1 Output b) 1 Input 2 Output
c) 2 Input 2 Output d) 2 Input 1 Output

Q.2 The number of select lines for 8:1 MUX are _____ CO-3

a) 6 b) 4
c) 2 d) 3

Q.3 One byte is equals to _____ nibble. CO-1

a) 1 b) 2
c) 3 d) 4

Q.4 Latches are _____ circuit. CO-4

a) Edge triggered b) Pulse triggered
c) Count triggered d) Level triggered

Q.5 The binary equivalent of decimal number 5 is _____ CO-1

a) 101 b) 100
c) 001 d) 111

Q.6 Which of the following combination is not allowed in SR flip-flop. CO-4

a) S=1, R=1 b) S=0, R=1
c) S=1, R=0 d) S=0, R=0

SECTION-B

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

Q.7 _____ flip-flop doesn't have race around condition? CO-4

Q.8 EPROM stands for _____. CO-5

Q.9 Convert $(9FDA)_{16}$ into binary equivalent. CO-1

Q.10 Name the Boolean law : A+B= B+A CO-2

Q.11 BCD code for decimal number 67 is _____ CO-1

Q.12 The output of multiplexer depends upon _____ CO-3

SECTION-C

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

Q.13 Differentiate between analog and digital signal. CO-1

Q.14 a) Subtract 24 from 16 using 2's complement method. CO-1

b) Convert $(64.5)_8$ into binary.

Q.15 Explain NAND gate as Universal gate. CO-2

Q.16 Solve the Boolean expression : $\overline{XY}+\overline{XZ} + \overline{XYZ}$. CO-2

Q.17 Explain half adder with circuit diagram. CO-3

Q.18 Explain with circuit diagram 1:4 DEMUX. CO-3

Q.19 Explain in detail about Ring Counter with diagram. CO-4

Q.20 Differentiate between Static and Dynamic RAM. CO-5

Q.21 Explain R/2R Ladder DAC. CO-5

Q.22 Explain SR flip-flop with diagram. CO-4

SECTION-D

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

Q.23 Simply K-map and realize the circuit with NAND gates only CO-2

$Y = Sm(0,1,2,5,7,13,14) + d(3,6,9)$.

Q.24 Explain

a) Postulates of Boolean algebra. CO-2

b) EPROM CO-5

Q.25 Explain 7-segment display decoder with diagram. CO-3

(**Note:** Course outcome/CO is for office use only)