Q.33 Explain R/2R ladder D/A Converter.

Q.34 Explain Demorgan's theorem.

Q.35 Write applications of shift register.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Simplify using K-MAP; Y(A,B,C,D) = Σm(0,2,4, 5,8,11,14)

Q.37 What are logic gates? Explain all logic gates with symbol and truth table.

Q.38 Write short note on any two

a) 7-segment decoder

b) IC 7495

c) 4-bit adder

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3rd Sem / Elect. & Eltx. Engg.
Subject:- Fundamental of Digital Electronics

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 An inverter is also known as_____ gate.

a) OR b) AND

c) NOT d) NOR

Q.2 8:1 MUX has_____ number of select lines

a) 2 b) 8

c) 3 d) 4

Q.3 Half adder can add_____ binary inputs

a) 3 b) 4

c) 2 d) 5

Q.4 The output of NAND gate is low

a) When at least one input is high

b) When all the inputs are low

c) When at least one input is low

d) When all the inputs are high

Q.5 A number system with base 2 is known as_____

a) Octal b) Binary

c) Decimal d) Hexadecimal

Q.6 A_____signal varies continuously with time

a) Digital b) Analog

c) Both d) None

Q.7 Which of the following is used as data selector

a) Encoder b) Decoder

c) Multiplexer d) Demultiplexer

Q.8 1 Byte= _____ bits

a) 8 b) 5

c) 4 d) 6

Q.9 X + 1 =_____

a) 1 b) 0

c) X d) None

Q.10 Multiplexer has_____

a) One input many outputs

b) Many inputs one output

c) Many inputs many outputs

d) None

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Expand LCD.

Q.12 What is Analog Signals?

Q.13 A train of pulses is an example of_____ signal.

Q.14 1's complement of 011010 is_____.

Q.15 A.A.= _____

Q.16 Convert $(10110)_2$ = ($)_8$

Q.17 BCD is a _____ bit code.

Q.18 Expand PISO.

Q.19 Define flip flop.

Q.20 A K-map of 4 variables contains _____cells.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Differentiate b/w Analog and digital signal.

Q.22 Subtract $(25)_{10}$-$(13)_{10}$ by 2's complement,

Q.23 What are weighted and non-weighted codes. Give example.

Q.24 Explain OR gate with truth table.

Q.25 Explain NAND and NOR gate as universal gate.

Q.26 Explain postulates of Boolean algebra.

Q.27 Explain full Adder with truth table.

Q.28 Explain 4:1 multiplexer.

Q.29 Explain JK flip flop.

Q.30 Explain SIPO Shift Register.

Q.31 Explain Ring Counter.

Q.32 Explain application of D/A Converter.