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5th Sem / Branch: Elect, GE, power station Engg.
Subject:- Digital Electronics and Microprocessors

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Every rational number is a -
a) Whole number b) Real number
c) Natural number d) None of the above

Q.2 The only function of NOT gate is to .....
a) Stop signal
b) Invert input signal
c) Act as a universal gate
d) None of the above

Q.3 In Boolean algebra, the bar sign (-) indicates.....
a) OR operation b) AND operation
c) NOT operation d) None of the above

Q.4 A_____ value is represented by a Blooean expression.
a) Positive b) Recursive
c) Negative d) Boolean

Q.5 What is the function of an enable input on a multiplexer chip?
a) To apply Vcc
b) To connect ground

c) To active the entire chip
d) To active one half of the chip

Q.6 In J-K flip-flop, the function K=J is used to realize _____
a) D flip-flop b) S-R flip-flop
c) T flip-flop d) S-K flip- flop

Q.7 How many control lines are present in analog to digital converter in addition to reference voltage?
a) Three b) Two
c) One d) None of the above

Q.8 Disk and tapes are type of
a) Serial memory
b) Combinational memory
c) State memory
d) Flip- flop

Q.9 In 8085, 16- bit address bus, which can address upto?
a) 16KB b) 32KB
c) 64KB d) 128KB

Q.10 There are _____ general purpose registers in 8085 processor.
a) 5 b) 6
c) 7 d) 8

SECTION-B

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

Q.11 _____ is the radix of Hexadecimal number

Q.12 The complimentary function is represented by_____ gate.

Q.13 Demultiplexer is the reserve of _____.

Q.14 According to Boolean Algebra A(A+B)=_____

Q.15 SR flip flop has active input as_____

Q.16 A half adder includes a NAND gate with _____ gate.

Q.17 The commonly used D/A converter is a _____ network

Q.18 The program counter in the 8085 microprocessor is of_____bit

Q.19 The power consumption of LCD is _____ than LED.

Q.20 TTL stands for_____

SECTION-C

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

Q.21 Convert C5E2F826 to binary.

Q.22 What is difference between analog & digital signals?

Q.23 Explain with the help of truth table, the working of OR and AND gates.

Q.24 State and prove De-morgan's Theorems.

Q.25 What is the difference between combinational and sequential circuit.

Q.26 What is J-K flip-flop? What are its advantages over S-R flip flops?

Q.27 Why are A/D and D/A converters necessary?

Q.28 What are various registers of 8085 ? Discuss their function

Q.29 Draw the PIN diagrams of 8085

Q.30 Write a short note on Counters?

Q.31 Write an assembly language program to add two numbers and store your result in memory location 2003H ?

Q.32 What are universal gates ? Why these are called as universal ?

Q.33 Discuss in brief different types of semiconductor memories ?

Q.34 Explain the difference between static and dynamics memories

Q.35 Define the term bit, byte and word.

SECTION-D

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

Q.36 Draw block diagram of 8085 microprocessor ? what are different addressing modes of 8085 ?

Q.37 Simply the function using K-map

$Y=(A,B,C,D) = \sum m\,(1,3,7,11,13) + D\,(0,2,5)$

Q.38 Write short note on :

(i) D/A converters

(ii) A/D converters