Q.30 Explain the use of NOR gate as universal gate.

Q.31 Explain ramp type A/D converter.

Q.32 Differentiate between RAM and ROM.

Q.33 Explain the Flag register of 8085.

Q.34 Explain the stack operation of 8085.

Q.35 Explain briefly the 8259 PIC.

Section-D

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

Q.36 With a neat sketch explain the working of Binary weighted resistor D/A converter.

Q.37 Minimize using k-map and implement using NAND gates

$$f(A,B,C,D, = \Sigma(0,2,4,5,10,15) + \Sigma d(7,8,13,14)$$

Q.38 With a neat sketch explain the block diagram of 8085.

Note : Course Outcome (CO) mentioned in the question paper is for official purpose only.

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Roll No. .....

5th Sem., Branch : Elect., GE, Power Station Engg.

Subject : Digital Electronics & Microprocessors

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (10x1=10)

Q.1 The gate whose output is 0 when the two of its inputs are 1 and 0 is

a) AND b) Or

c) NAND d) All of the above

Q.2 A half adder can be constructed using a EX-OR gate and _____gate

a) NOR b) OR

c) AND d) NAND

Q.3 A + 1 = _____.

a) 0 b) 1

c) A d) $\bar{A}$

Q.4 Combining of 8 elements is a K-map results in reduction of _____ variables from o/p

a) 1 b) 2

c) 3 d) 4

Q.5 Clock frequency of 8085 is

a) 1 MHZ b) 2 MHz

c) 3 MHz d) 4 MHz

Q.6 Full form of SOD is

a) Semi Output Delay b) Serial Output Delay

c) Semi Output Data d) Serial Output Data

Q.7 Binary equivalent of 10 is

a) 1101 b) 1010

c) 1110 d) 1111

Q.8 1s, Compliment representation of -8 is

a) 00001000 b) 00000111

c) 11111000 d) 11110111

Q.9 Vectored address of TRAP is

a) 0024 b) 002C

c) 0034 d) 003C

Q.10 Interrupt with the highest priority is

a) INTR b) RST 6.5

c) RST 5.5 d) TRAP

Section-B

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

Q.11 Full adder has 3 inputs (True/False)

Q.12 Ex-Nor gate is a universal gate (True/False)

Q.13 Draw the symbol of NAND Gate.

Q.14 $(ABCD)_{16} = (?)_{10}$

Q.15 A+0 = 0 (True/False)

Q.16 $A + \bar{A} = 0$ (True/False)

Q.17 2:1 Mux has _____ select lines.

Q.18 Explain the use of Ready pin.

Q.19 8085 is _____ bit microprocessor.

Q.20 Full form of SOP is _____.

Section-C

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

Q.21 $(111)_8 = (?)_{10} = (?)_{16}$

Q.22 Explain demorgans first theorem.

Q.23 Explain the working of 8:1 MUX.

Q.24 Explain the working of a Full Adder.

Q25 Differentiate between encoder and decoder.

Q.26 Minimize using Boolean algebra

$f(A,B,C,D,) = \bar{A}\bar{B}\bar{C}D + \bar{A}B\bar{C}\bar{D} + A\bar{B}CD + ABCD$

Q.27 Draw the truth table of RS Flip flap.

Q.28 Differentiate between SOP and POS.

Q.29 Explain 1:2 DEMUX.