Q.31 What is the basic difference between Moore machines and Mealy machines.

Q.32 Explain the working of single slope type A/D converter.

Q.33 Implement the function with PROM. $Y = \sum m(1,2,6,7)$

Q.34 Differentiate between combinational circuits and sequential circuits.

Q.35 How memory can be expanded?

SECTION-D

Note : Long Answer type question. Attempt any two questions. (2x10=20)

Q.36 Design a MOD-5 counter by using J-K flip-flops.

Q.37 Draw and explain the working of R/2R ladder digital to analog converter.

Q.38 Minimize the following Boolean expression using Q-M method.

$F(w,x,y,z) = \sum m(2,4,6,8,10) + d(1,3,5,7)$

b)

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Roll No.....

Branch : Eltx., Med. Eltx., Power Eltx.
Subject : Digital Eltx.-II

Time : 3 Hrs. **M.M. : 100**

SECTION-A

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

Q.1 Which is the fastest logic family?.

a) TTL b) ECL

c) DTL d) CMOS

Q.2 The numbers of comparator required for S bit parallel A/D converter are?

a) 31 b) 32

c) 33 d) 35

Q.3 How many cells are there in 3 variables K-map?

a) 6 b) 8

c) 12 d) 16

Q.4 EPROM stands for:

a) Electrical Programmable Read Only Memory

b) Electronic Programmable Read only Memory

c) Erasable Programmable Read only Memory

d) End Programmable Read only Memory

Q.5 The modules a 4 bit counter is.

a) 8 b) 12

c) 14 d) 16

Q.6 ALU Stands for.

a) analog Logic Unit b) Arithmetic Logic Unit

c) Analog Lower Unit d) Arithmetic Lower Unit

Q.7 LSI and VLSI device uses the technology of.

a) MOS b) P MOS

c) N MOS d) C MOS

Q.8 The difference between analog voltage represented by two adjacent digital codes of an analog to digital convertor

a) Accuracy b) Resolution

c) Quantization d) Precision

Q.9 A PAL consists of programmable ____ gates

a) AND b) OR

c) AND-OR d) None

Q.10 In the Moore Machine, the output is strictly a function of _____

a) State of the machine b) Present slate

c) Past Slate d) None

SECTION-B

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

Q.11 Draw symbol of NAND gate.

Q.12 FPGA stands for ____

Q.13 The contents of EPROM memory can be erased by _____

Q.14 Single slope convertor is used to convert digital signal to analog signal. (True/False)

Q.15 Expand CMOS.

Q.16 Write any two fuzzy set operations.

Q.17 Which types of operations are performed by IC 79181?

Q.18 Fan in signifies _____ of gate.

Q.19 Give full form of VLSI?

Q.20 What is the function of present input in F/F?

SECTION-C

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

Q.21 Write a short note on "Fuzzification".

Q.22 What is logic family? What are different types of logic families?

Q.23 Explain binary weighted D/A convertor.

Q.24 How memory can be classified.

Q.25 Explain properties of membership functions.

Q.26 Write a short note on "CCD Memory".

Q.27 Explain properties of A/D converters?

Q.28 List the main features of IC 74181.

Q.29 Draw the circuit of 4-bit up-down counter.

Q.30 What are De-Morgan's theorem. Explain them in equation form?