

SECTION-D

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

Q.36 Compare all logic families on the basis of their characteristics.

Q.37 Explain in detail with block diagram of a PLA.

Q.38 Minimize the following Boolean expression by using Quine Mc Cluskey method

$$F(A,B,C,D,E) = \Sigma m(0,2,4,5,6,7,8,10,14,17,18,21,29,31) + d(11,20,22).$$

No. of Printed Pages : 4

Roll No.

121044/031044

4th Sem / Branch : Eltx, Med Eltx, Power Eltx

Subject:- Digital Electronics II

Time : 3Hrs.

M.M. : 100

SECTION-A

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

Q.1 ECL is way of achieving higher speed of gate.

- a) True b) False

Q.2 The standard TTL gates are marketed as _____ series.

- a) 80 b) 82
c) 74 d) 08

Q.3 Bubbled AND gate is equivalent to

- a) NAND b) NOR
c) OR d) X-OR

Q.4 The _____ is non volatile in nature.

- a) ROM b) RAM
c) DRAM d) SRAM

Q.5 The refreshing is required in _____ memory.

- a) Static Ram b) Dynamic Ram
c) Both d) None

Q.6 How many cells are there in a four variable K-map?

- a) 4 b) 16
c) 8 d) 15

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Q.7 The Race condition exists in _____ sequential circuits.

- a) Synchronous
- b) Asynchronous
- c) Both
- d) None

Q.8 The class B & c machines are also called

- a) Mealy Machine
- b) Moore Machine
- c) Finite State Machine
- d) None

Q.9 IC 74181 belongs to which family

- a) TTL
- b) ECL
- c) CMOS
- d) IIL

Q.10 Fuzzy sets can be expressed in _____ ways.

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

SECTION-B

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

Q.11 Expand CMOS.

Q.12 Which type of Circuit used in dual slop A/D converter for generating ramp type voltage?

Q.13 MSI Stands for _____

Q.14 Define Volatile memory.

Q.15 How many variables are eliminated using octal in K-map?

Q.16 How many types of Sequential circuits are there?

Q.17 Expand ALU.

Q.18 Define Fuzzification.

Q.19 IC 74181 is used for _____

Q.20 FPGA stands for _____

SECTION-C

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

Q.21 Define Noise margin and Noise Immunity.

Q.22 Write any five performance characteristics of D/A converter.

Q.23 Explain in brief about SRAM.

Q.24 Differentiate between a synchronous and asynchronous sequential circuit.

Q.25 Explain Moore machine.

Q.26 Draw the pin description of IC 74181.

Q.27 Explain function of ALU.

Q.28 Explain NOR Gate using CMOS.

Q.29 List any five characteristics of A/D converter.

Q.30 Explain tri state inverter circuit.

Q.31 List five advantages of DRAM over SRAM.

Q.32 Design a Mod-6 counter using JK flip flop.

Q.33 Explain defuzzification.

Q.34 Define fuzzy logic.

Q.35 Write the basic rule of subtraction.