TED (15) -4032
(Revision- 2015)

N20-04214

Reg.No………………..............
Signature. ....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – NOVEMBER -2020.

DIGITAL ELECTRONICS AND MICROPROCESSOR

(Maximum Marks: 75) [Time: 2.15 hours]

PART–A

Marks

I. Answer **any three** questions in one or two sentences. Each question carries 2 marks.

1. Write down the 2's complement of 1010101.
2. List any four applications of flip flop.
3. Define the term modulus.
4. Define microprocessor.
5. What is meant by databus. (3x2=6)

PART - B

II Answer **any four** of the following questions. Each question carries 6 marks.

1. Perform the following
   (a) 1011 x 1101 (b)11001÷ 101
2. Define the terms fan in, fan out and propagation delay.
3. State and explain Demorgan's theorem.
4. Explain the term race around condition.
5. Differentiate between synchronous and asynchronous counters.
6. Draw the R-2R ladder type DAC.
7. List out the features of 8085 microprocessor.

[4x6 =24]

PART -C

(Answer **any of the three units** from the following. Each full question carries 15 marks)

UNIT I

III (a) Do the following operations.
(i) $(284)_{10}$ into binary (ii) $(6A2.3)_{16}$ into decimal

(iii) $(86.45)_{10}$ into octal (8)

(b) Draw the basic gates using NOR gates only. (7)

OR

IV (a) Briefly explain about the logic gates using truth table. (8)

(b) Compare between TTL and ECL logic families. (7)

UNIT- II

V (a) Explain the working of 8x1 multiplexer with neat diagram. (8)

(b) Explain JK flip flop with diagram and truth table. (7)

OR

VI (a) Explain the working of full adder circuit with truth table. (8)

(b) With the help of a truth table briefly explain about 3 to 8 line decoder… (7)

UNIT- III

VII (a) Draw and explain the working of PIPO shift register. (8)

(b) Briefly explain about 3 bit asynchronous ripple counter. (7)

OR

VIII (a) Explain the working of a right shift register with a neat diagram. (8)

(b) Explain about UP/DOWN counter with truth table. (7)

UNIT – IV

IX (a) Draw and explain the block diagram of 8085 microprocessor. (8)

(b) Briefly explain about instruction groups in 8085. (7)

OR

X (a) Draw the pin diagram of 8085 microprocessor. (7)

(b) What are the addressing modes used in 8085. Explain them briefly. (8)

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