NETTUR TECHNICAL TRAINING FOUNDATION

DIPLOMA IN COMPUTER ENGINEERING & IT INFRASTRUCTURE – CP08

II SEMESTER REGULAR & SUPPLEMENTARY EXAMINATION-JULY 2023

Subject: Applications of Analog & Digital Circuits **Total Time: 2 Hr.**

Subject Code: CP082056T **Total Marks: 50**

PART B

1.0 ANSWER ANY EIGHT OF THE FOLLOWING **2*8=16**

1.1 Draw the symbol of transistor and mark three region.

1.2 How many contacts does relay have? Name them

1.3 List out the types of MOSFET

1.4 Draw the diagram of Open drain configuration

1.5 Define Multiplexer. List out the applications of multiplexer.

1.6 Define shift register

1.7 Define the terms alpha & beta

1.8 What are the Characteristics of Logic Family?

1.9 Name the types of Data Converter

1.10 List out the applications of counters

2.0 ANSWER ANY SIX OF THE FOLLOWING **3*6=18**

2.1 Explain how conduction is initiated in NPN transistor?

2.2 Explain the working of transistor as a switch with neat diagram

2.3 Draw the structure of N- channel enhancement type MOSFET

2.4 Write down the limitations of Totem pole output?

2.5 Design 4:1 multiplexer circuit with neat diagram

2.6 Differentiate between BJT and MOSFET.

2.7 Define Fan in & Fan out

2.8 Draw the block diagram of ADC process

3.0 ANSWER ANY FOUR OF THE FOLLOWING **4*4=16**

3.1 Write the comparison between 3 configurations of transistor

3.2 Differentiate between Asynchronous and Synchronous counter

3.3 Explain about 4 bit SISO with neat sketch

3.4 Explain binary weighted type DAC with neat sketch

3.5 Draw the construction details of P type enhancement MOSFET and show the biasing details.

3.6 List down the classifications of semiconductor memories