

NETTUR TECHNICAL TRAINING FOUNDATION
DIPLOMA IN ELECTRONICS ENGINEERING & EMBEDDED SYSTEM – CP04
V SEMESTER REGULAR & SUPPLEMENTARY EXAMINATION-JAN 2023

Subject: Advanced Microcontroller-PIC
Subject Code: CP04501T

Total Time: 2 Hr.
Total Marks: 50 Marks

PART B

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

- 1.1 State the role of W Register
- 1.2 What is the function of the pin MCLR?
- 1.3 State the main function of program counter.
- 1.4 Explain the significance of PULL-UP resistors
- 1.5 Classify the instruction sets based on the type of operation of PIC microcontroller.
- 1.6 What do you understand by the term interrupts?
- 1.7 How many timer modules does PIC16F877A has?
- 1.8 Write a program to place a number “FFH” in memory location 20H to 25H.
- 1.9 State the role of SSPBUF register.
- 1.10 In how many modes USART can be configured? Name them.

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

- 2.1 How does a watch dog timer works?
- 2.2 Write the specification of the on chip memory available in PIC16F877A.
- 2.3 Differentiate between indirect & direct addressing modes
- 2.4 Why MSSP is used & in how many modes it can be operated?
- 2.5 Draw the POR & clock circuit for PIC16F877A
- 2.6 How SPI is different from I²C?
- 2.7 Draw the block diagram of PWM module
- 2.8 Write a C program to interface a LED & a switch.

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

- 3.1 Differentiate between RISC & CISC Processor.
- 3.2 Write a short note on the PORTs of PIC16F877A microcontroller
- 3.3 Draw & explain PIC16F877A timer block diagram.
- 3.4 How bank is selected in PIC Microcontroller?
- 3.5 Differentiate between capture, compare & PWM mode of PIC microcontroller.
- 3.6 Draw the pin diagram of PIC16F877A

