

2023

B.E. (Electronics and Communication Engineering)  
Fourth Semester  
EC-402: Microcontrollers and Interfacing

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Explain the following:-

- a) Stack pointer position after reset
- b) How baud rate can be control in 8051 for serial communication?
- c) Watch dog timer
- d) Memory mapping in PIC
- e) If a buzzer is directly interfaced to PIC, how much current is required to beep the buzzer?

(5x2)

**UNIT - I**

- II. Explain the memory organization of 8051 and interface 2k RAM and 8K ROM to 8051 and discuss the read and write timing diagram. (10)
- III. Explain the starting, stopping and controlling process of timers and write an 8051 program to generate a 12 khz square wave on P 1.2 using timer 0 also on and off the LED attached at P 1.4 with on time 50 sec and off time 25 sec. (10)
- IV. Define the interrupt processing and write a program using interrupts to continually transmit the ASCII code set to a terminal attached to the 8051's serial port. (10)

**UNIT - II**

- V. Assume the availability of the INCHAR and OUTCHAR subroutine and write a programme that inputs character from key board and echoes them back to the screen converting lowercase character to uppercase. (10)
- VI. What are the processes and condition of DATA transfer of PIC 18 microcontroller? (10)
- VII. Discuss the pin diagram of PIC 18 series microcontroller in detail. (10)

x-x-x