

Roll No.

Total No. of Pages : 02

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**B.Tech. (Electronics & Communication Engineering)/(ECE) (PIT)
(Sem.-4)**

MICROPROCESSORS AND MICROCONTROLLERS

Subject Code : BTEC-402-18

M.Code : 77566

Date of Examination : 05-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) What is the function of ALE signal?
- b) How many ways an 8051 microcontroller can be interrupted?
- c) What are special functions registers?
- d) List the interrupt sources of 89C51 with their vector address.
- e) What is the use of directives? List them.
- f) Differentiate between SJMP and LJMP instructions.
- g) Differentiate microprocessor and microcontroller.
- h) What are the functions of an accumulator?
- i) What is an operand? Explain with an example.
- j) What is baud rate? What is its significance and how can it be increased?

SECTION-B

2. Explain the architecture of 8051 microcontroller with a neat block diagram.
3. Draw the interrupt vector table of 8085 microprocessor and explain its operation.
4. Show and explain the ADC interfacing with 8051 microcontroller.
5. Discuss about the organisation of Internal RAM and Special function registers of 8051 microcontroller in detail.
6. Draw the TMOD register format and explain the different operating modes of timer in 8051 microcontroller.

SECTION-C

7. a) Draw and explain the timing diagram for IN and OUT instructions of 8085.
b) Explain the program memory and data memory structure of 8051 microcontroller.
8. Draw the pin diagram of 8051 microcontroller and explain its port structure.
9. Show and explain the interface of LCD or 7 segment display using 8051 microcontroller.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.