

Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

EVENING

[Total No. of Questions: 09]

02 JAN 2023

[Total No. of Pages: 2.]

Uni. Roll No.

Program: B.Tech. ECE

Semester: 5

Name of Subject: Microprocessors and Microcontrollers

Subject Code: PCEC-112

Paper ID: 16419

Scientific calculator is Allowed

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part – A

[Marks: 02 each]

Q1.

- a) What is the role of ALE pin in 8085 μ P?
- b) Label the 9-pin connector of RS232 standard.
- c) What is meant by interfacing?
- d) Identify the functioning of each instruction of 8085 μ P as given below:
 - i. XCHG
 - ii. LHLD 2051H
 - iii. STAX B
 - iv. PUSH PSW
- e) Construct a program to multiply two 8-bit numbers by using 8051 μ C.
- f) * Distinguish flag register of 8085 μ P with 8051 μ C.

Part – B

[Marks: 04 each]

- Q2. Recall the interrupts of 8085 microprocessor and list the different steps for processing an interrupt.
- Q3. Compare the features of 8085 μ P with 8051 μ C.
- Q4. Summarize the addressing modes of 8051 μ C.

EVENING

02 JAN 2023

- Q5. Write instructions to clear CY flag, to load FFH in register C, and to add 05H to C. If the CY flag is set, then
- Display 01H at an output port, otherwise, display the contents of register C.
 - Display the contents of flag register on 2005 location.
 - Calculate the contents of PSW.
- Q6. Explain the bit processing instructions of 8051 microcontroller.
- Q7. Examine call and jump instructions with suitable examples.

Part – C

[Marks: 12 each]

- Q8. Outline the pin diagram and describe the functioning of each pin of 8085 μ P.

OR

Illustrate the LCD interfacing of 8051 microcontroller.

- Q9. Elaborate the classification of the instruction set of 8051 μ C. Also, mention the instruction formats with suitable examples.

OR

Discuss the memory organisation of the 8051 microcontroller (SFRs, Internal RAM, and Internal ROM).
