

Roll No.

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**B.TECH. IV SEM MAIN EXAM
AUGUST-2023
ELECTRONICS AND COMMUNICATION
ENGINEERING
(4EC4-02) - MICROPROCESSOR AND
MICROCONTROLLER.**

Time : 3 Hours]

[Max. Marks : 70

[Min Passing Marks :

Instructions to Candidates : Part – A : Short answer type questions (up to 25 words)

10 × 2 marks = 20 marks. All ten questions are compulsory.

Part – B: Analytical/Problem Solving questions 5 × 4 marks = 20 marks. Candidates have to answer 5 questions out of 7.

Part – C: Descriptive/Analytical/Problem Solving questions 3 × 10 marks = 30 marks. Candidates have to answer 3 questions out of 5.

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting materials is permitted during examination. (Mentioned in form No. 205)

1 _____

2 _____

PART A

- Q. 1. Explain different control signals used by 8085. [2]
- Q. 2. Describe the function of READY Pin in 8085. [2]
- Q. 3. Write short note on signals used in DNA operation in 8085. [2]
- Q. 4. Give the opcode formats for 8085. [2]

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- Q. 5. Describe stack and stack pointer. [2]
- Q. 6. Define Instruction Cycle. [2]
- Q. 7. Define Machine Cycle. [2]
- Q. 8. What is the use of external hardware interrupts in 8051 ? [2]
- Q. 9. Write short note on programming 8081 timers and counters. [2]
- Q. 10. Define Memory Interfacing. [2]

PART B

- Q. 1. List major events that occur during the execution of microprocessor program. [4]
- Q. 2. How does the microprocessor respond to an interrupt ? [4]
- Q. 3. Describe macro RTL and micro RTL flow chart of instruction. [4]
- Q. 4. Write short note on SFRs, Clock and RESET Circuits. [4]
- Q. 5. What is the necessity of the programmable interval timer ? [4]
- Q. 6. Illustrate different modes of operations of 8253/8254. [4]
- Q. 7. Draw and explain the functional block diagram of 8253/8254. [4]

PART C

- Q. 1. With the help of a functional block diagram explain the organization and working of 8259. [10]
- Q. 2. Sketch the block schematic of the 8085 and label various blocks and signal lines. [10]
- Q. 3. How many I/O lines does the 8255 have ? Explain 8257 (DMA Controller) in brief. [10]
- Q. 4. Draw and explain the internal architecture of 8259 A. [10]
- Q. 5. Draw and explain the architecture of 8051 microcontroller. [10]
