

TED (10)–4082

(REVISION–2010)

Reg. No.

Signature

FOURTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY—MARCH, 2013

MICROCONTROLLER AND INTERFACING

(Common to EI and IT)

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. List the segment registers of 8086.
2. Name the two 16 bit registers in 8051.
3. Of the 128 bytes of RAM in 8051, how many bytes are bit addressable? List them.
4. Is MUL A, R1 is a valid 8051 instruction? Give reason.
5. What is the function of control word register in 8253 timer? (5×2=10)

PART—B

II Answer any five of the following questions. Each question carries 6 marks.

1. Discuss the function of the following signals of 8085 :
ALE, READY, S0 and S1.
2. Write the main features of Pentium and Pentium II processors.
3. What are the different timers in 8051? Describe the bit positions of TMOD register.
4. Explain the different rotate instructions of 8051.
5. Write 8051 assembly language program to add three 8 bit numbers and store the result in memory.
6. Describe the functions of 8259 programmable interrupt controller IC.
7. Draw the schematic diagram for interfacing 8051 with stepper motor.

(5×6=30)

PART—C

(Answer one full question from each unit. Each question carries 15 marks.)

UNIT—I

- III (a) Explain the requirement of a program counter, Stack pointer and Status flags in the architecture of 8085. 8
- (b) Write the features of 80286. 7

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OR

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	Marks
IV (a) Classify the instructions of 8085 into various groups and explain. Give 4 examples for each group.	9
(b) Draw the timing diagram for transfer of byte from memory to 8085.	6
UNIT—II	
V Describe the different ports of 8051.	15
OR	
VI Describe the internal and external memories of 8051.	15
UNIT—III	
VII (a) Explain the following instructions of 8051 :	
(i) CJNE (ii) SJMP (iii) SWAP (iv) DJNZ	8
(b) Develop 8051 assembly language program to find the 2's complement of an 8 bit number and store the result in memory.	7
OR	
VIII (a) Explain look up table and subroutines.	7
(b) Explain the conditional and unconditional jump instructions of 8051.	8
UNIT—IV	
IX Describe the interfacing of DC motor with 8051.	15
OR	
X Illustrate interfacing of DAC with 8051 microcontroller.	15