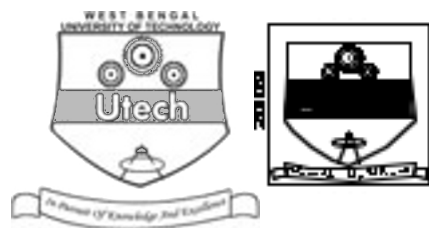


# MICROPROCESSOR BASED SYSTEM ( SEMESTER - 6 )

CS / B.TECH(ICE / EIE(O)) / SEM-6 / EI-602 / 09



1. ....  
Signature of Invigilator

2. ....  
Signature of the Officer-in-Charge

Reg. No.

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Roll No. of the  
Candidate

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CS / B.TECH(ICE / EIE(O)) / SEM-6 / EI-602 / 09

ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009

## MICROPROCESSOR BASED SYSTEM ( SEMESTER - 6 )

Time : 3 Hours ]

[ Full Marks : 70

### INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.  
b) For **Groups – B & C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

**No additional sheets are to be used and no loose paper will be provided**

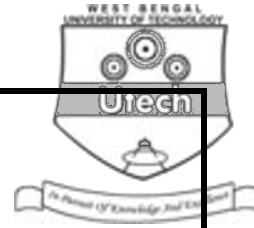
### FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

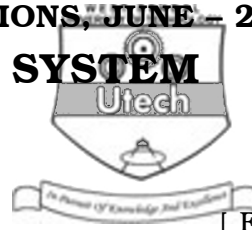
	Group – A										Group – B					Group – C					Total Marks	Examiner's Signature
Question Number																						
Marks Obtained																						

.....  
Head-Examiner / Co-Ordinator / Scrutineer

6666 (05/06)



**DO NOT WRITE ON THIS PAGE**



[ Full Marks : 70

## GROUP – A

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following :  $10 \times 1 = 10$

  - What is the vector location for NMI ?
 

a) 00000H	b) 00008H	
c) 00010H	d) 00014H.	<input type="text"/>
  - What physical address is represented by 4370 : 561EH ?
 

a) 4370EH	b) 0561EH	
c) 48D1EH	d) 5A550H.	<input type="text"/>
  - JZ instruction used on only
 

a) A	b) F	
c) R0	d) none of these.	<input type="text"/>
  - The segment and offset address of the instruction to be executed by 8086 are pointed by
 

a) CS and SI	b) DS and IP	
c) CS and SP	d) CS and IP.	<input type="text"/>
  - The invalid instruction in case of 8086 is
 

a) MOV AX, 1000H	b) MOV SI, 1000H	
c) MOV DS, 1000H	d) MOV BX, 1000H.	<input type="text"/>
  - The numbers of 16-bit timers used in 8051 are
 

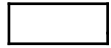
a) 3	b) 4	
c) 2	d) none of these.	<input type="text"/>

- 6666 (05 / 06)**



c) 4 bytes

d) 2 bytes.

**GROUP – B****( Short Answer Type Questions )**Answer any *three* of the following.

3 × 5 = 15

2. Explain the concept of segmented memory. What is the purpose of segmentation and its advantages ? 2 + 3
3. Explain the functions of the following pins : 5 × 1
  - a)  $\overline{LOCK}$
  - b)  $RQ/\overline{GT}$
  - c)  $\overline{BHE}$  / **S7**
  - d)  $\overline{TEST}$
  - e) **MN**/ $\overline{MX}$  .
4. Write an assembly language programming to find the smallest number in a data array of ten numbers.
5. Briefly explain the working of PSW Register of 8051.
6. What is the utility of TMOD Register of 8051 ?

**GROUP – C****( Long Answer Type Questions )**Answer any *three* questions.

3 × 15 = 45

7.
  - a) What do you mean by maximum mode in 8086 system ?
  - b) What are the types of interrupts available in 8086 system ? Explain.
  - c) What is the interrupt vector address table ? 5 + 5 + 5
8.
  - a) What logic instruction can be used to check the content of the accumulator; whether it is zero or not without affecting the content of the accumulator ?
  - b) A string of readings is stored in memory location starting at ( 8070H ) and the end of the string is indicated by the byte 00H. Write a program to add all the bytes in the strings. ( Neglect carry if generated ) and store the result in memory location ( 8100H ).
  - c) Which of the hardware interrupts of the 8086 are mask-able ?



- d) Explain the functions of "SIM" and "RIM" instructions in 8085.
- e) Explain clearly the functions performed by the instruction DAA. 1 + 4 + 1 + 5 + 4
9. a) What are the features of RS-232 C ?
- b) Discuss the following signal description of 8051 :
- i) PSEN
  - ii) Epp
  - iii) RxD
  - iv) ALE/PROG
  - v) RI & TI. 5 + ( 5 × 2 )
10. a) Briefly discuss, with a neat diagram the architecture of 8051.
- b) Discuss about the addressing modes of 8051.
- c) Briefly explain the interfacing of MC1408 8-bit D/A. 5 + 4 + 6
11. a) What are the advantages of writing a program in assembly language instead of writing the program directly in machine language ?
- b) Write a program to add the elements of two [ 3 × 3 ] matrix in which 1st and 2nd matrix elements are stored from 2000 and 3000 offset address and the results from 5000 ].
- c) Pipeline architecture fast the execution process in 8086 over 8085. Explain it.
- d) What is the advantage of using internal register for temporary data storage over the memory location ?
- e) What is the function of 'TEST' pin in 8086 ? 3 + 5 + 3 + 2 + 2

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END