CS / M.Tech (MC. ENGG.) / SEM-2 / ME-202 / 09
ADVANCED MICROPROCESSOR (SEMESTER - 2)

1. ....
Signature of Invigilator

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

Reg. No.

Roll No. of the Candidate

CS / M.Tech (MC. ENGG.) / SEM-2 / ME-202 / 09

ENGINEERING & MANAGEMENT EXAMINATIONS, JULY – 2009

ADVANCED MICROPROCESSOR (SEMESTER - 2)

Time : 2 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. You have to answer the questions in the space provided marked 'Answer Sheet'. 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

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Marks Obtained

Question Number											***Total Marks***	***Examiner's Signature***
Marks Obtained												

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

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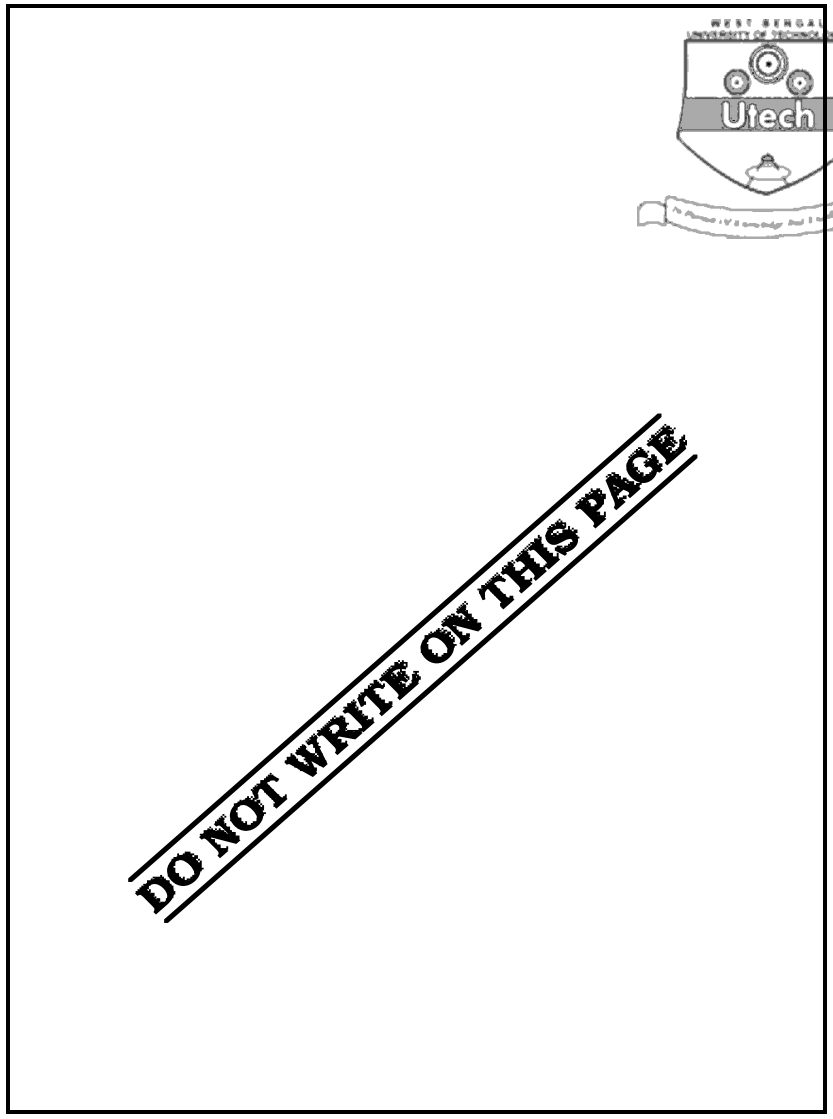
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ADVANCED MICROPROCESSOR

SEMESTER - 2

Time : 2 Hours] [Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer any *five* questions. 5 × 14 = 70

1. a) Draw the functional block diagram of 8086 processor and explain briefly. 10

   b) Explain how pipelining is implemented in 8086 processor. 2

   c) Write the differences between 8086 microprocessor and 8088 microprocessor. 2

2. a) Define logical and physical addresses with examples. 4

   b) Determine the physical address corresponding to logical address = 2050 H and DS = 5000 H. 4

   c) What are the different addressing modes of 8086 microprocessor ? Explain each addressing modes with examples. 6

3. a) Define machine cycle and instruction cycle. 2

   b) Draw the timing diagram for memory READ operation of 8086 processor in minimum mode and explain briefly. 8

   c) Write the difference between :

      i) Intra-segment and inter-segment

      ii) MUL and IMUL. 4

4. a) Discuss time delay generation using register and calculation of time delay. 6

   b) Calculate the execution time for the following instructions :

	T-states
MOV CX, DELAY	4
COUNT : LOOP COUNT	17/5

   Asume DELAY = FFFF H and f = 10 MHz. 3

   c) Write a program for addition of string of words. 5

5. a) Draw the functional pin diagram of 8051 micro-controller and explain the operation of TMOD, TCON, SCON and DPTR. 8

b) Write differences between 8051 microcontroller and 8085 microprocessor. 3

c) Discuss the following signals of 8051 microcontroller : 3

i) PSW

ii) $\overline{\text{PSEN}}$

iii) $\overline{\text{EA}}$.

6. a) Explain addressing modes of 8051 microcontroller with examples. 8

b) Write a program to perform addition, subtraction, multiplication and division of two 8-bit numbers. 6

7. Write short notes on any *four* of the following : 14

a) LOOP instructions

b) Arithmetic instructions of 8051

c) Program memory and data memory of 8051

d) ADC interface with 8051

e) Minimum mode operation of 8086

f) Segment memory of 8086.

8. Write any *three* of the following programs : 14

a) Find out square root of a number using LOOK-UP table in 8086.

b) Find the largest number from 10 numbers in 8086.

c) 2's complement of a 4 byte number in 8051.

d) Divide two 16 bit numbers in 8086.

e) Convert 8 bit hexadecimal number to binary number.

END