

NOV-DEC-2012

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Seat No.	
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[4262]-206

S.E. (Comp. Engg.) (II Sem.) EXAMINATION, 2012

MICROPROCESSOR AND INTERFACING TECHNIQUES

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

- N.B. :— (i) Answer *three* questions from Section I and *three* questions from Section II.
- (ii) Answers to the two Sections should be written in separate answer-books.
- (iii) Neat diagrams must be drawn wherever necessary.
- (iv) Figures to the right indicate full marks.
- (v) Assume suitable data, if necessary.



SECTION I

1. (a) Draw and explain programmers' model of 8086 micro-processor. [8]
- (b) How does 8086 convert a logical address into a physical address ? [8]

P.T.O.

Or

2. (a) Draw and explain the memory read timing cycle of 8086 microprocessor for Maximum mode. [8]
- (b) List out the signals of the 8086 which have different meanings in minimum and maximum mode. [8]
3. (a) Explain the various addressing modes of 8086 along with *one* example. [8]
- (b) Write an 8086 ALP to separate even and odd numbers in the array. [8]

Or

4. (a) Explain the following instruction for 8086 microprocessor : [8]
- (i) PUSH
  - (ii) IMUL
  - (iii) STOSB
  - (iv) CALL.
- (b) Explain the following Assembler directives : [8]
- (i) ENDP & ENDM
  - (ii) MODEL
  - (iii) LABEL
  - (iv) PUBLIC.

5. (a) Draw and explain structure of PSP. [8]  
(b) Explain what is TSR. Explain the structure of TSR in detail. [10]

*Or*

6. (a) What is the difference between DOS and BIOS calls ? [8]  
(b) Draw and explain the functional block diagram of 8259 PIC. [10]

## SECTION II

7. (a) Explain BSR & I/O mode of 8255 with appropriate control word formats. [8]  
(b) Interface a typical 8-bit DAC with 8255 and write a program to generate square waveform of period 100 ms. The 8086 runs at 10 MHz frequency. [10]

*Or*

8. (a) Draw and explain the functional block diagram of 8251. [8]  
(b) What are different methods of ADC ? Explain dual slope ADC with block diagram. [10]

