Total No. of Questions—**12**] [Total No. of Printed Pages—**4**

Seat No.	

[5252]-15

S.E. (Comp. Engg.) (Second Semester) EXAMINATION, 2017

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 microprocessor. [8]

(B) Explain with a neat diagram of memory segmentation in the 8086 microprocessor. [8]

Or

2. (A) List out the signals of the 8086 which have different meanings in minimum and maximum mode. [8]

(B) Explain the flags register with instruction affecting the flags. [8]

P.T.O.

3. (A) Explain the following addressing modes with one example each : [8]

(*a*) Direct Addressing

(*b*) Immediate Addressing

(*c*) Base Register Addressing

(*d*) Index Addressing.

(B) Explain with example the following instructions for 8086 : [8]

(*a*) XCHG

(*b*) XLAT

(*c*) MUL

(*d*) LEA.

Or

4. (A) Explain the following Assembler directives : [8]

(*i*) ENDP & ENDM

(*ii*) MODEL

(*iii*) LABEL

(*iv*) PUBLIC.

(B) Explain the difference between near and far procedure of 8086 microprocessor. [8]

5. (A) What are the different components of MS-DOS? With the help of neat diagram, explain how MS-DOS gets loaded. [10]

(B) Draw and explain structure of PSP. [8]

Or

6. (A) What is the difference between DOS and BIOS calls ? [8]

(B) Explain the command words/control words of 8259 in detail. [10]

SECTION-II

7. (A) Explain BSR & I/O mode of 8255 with appropriate control word formats. [8]

(B) Draw a block diagram of 8255 PPI and explain in brief. [10]

Or

8. (A) Compare asynchronous serial communication with synchronous communication. Draw the command instruction format of 8251 and explain it. [8]

(B) What are different methods of ADC ? Explain dual slope ADC with block diagram. [10]

9. (A) Explain with the help of block diagram functioning of 8253 in different programmable modes. [8]

(B) Draw and explain the following 8279 commands : [8]

(*i*) Keyboard/display mode set command

(*ii*) Read FIFO/sensor RAM command.

Or

10. (A) Explain in brief how 8279 is used for keyboard/display interface with a suitable example. [8]

(B) Explain the necessity of 8237 DMA controller. List the features of 8237 DMA controller. [8]

11. (A) Draw the maximum mode module of 8086 clearly showing address latches, transreceivers and clock generator. [8]

(B) Draw and explain the architecture of 8087 NDP. [8]

Or

12. (A) Explain the use of 8284 and 8286 in interfacing memory with 8086. [8]

(B) Interface 8255 PPI with 8086 microprocessor in maximum mode. Draw interfacing diagram and mention address map for 8255. [8]