Total No. of Questions—**8**] [Total No. of Printed Pages—**4**

Seat No.	

[5352]-168

S.E. (Computer Engg.) (II Sem.) EXAMINATION, 2018

MICROPROCESSOR & INTERFACING TECHNIQUES

(2012 PATTERN)

Time : Two Hours **Maximum Marks : 50**

N.B. **:—** (*i*) Attempt total **4** questions : Q. No. **1** *or* Q. No. **2**, Q. No. **3** *or* Q. No. **4**, Q. No. **5** *or* Q. No. **6**, Q. No. **7** *or* Q. No. **8**.

(*ii*) Neat diagrams must be drawn wherever necessary.

(*iii*) Figures to the right indicate full marks.

1. (*a*) Compare 8086, 80386 processors on the basis of segmentation. [4]

(*b*) Explain the following addressing modes with suitable example in 80386 processor : [4]

(*i*) Based mode

(*ii*) Indexed mode

(*iii*) Scaled indexed mode

(*iv*) Based scaled indexed mode.

(*c*) Explain the difference between DOS calls and BIOS calls. [4]

P.T.O.

Or

2. (*a*) Differentiate between Procedure and Macro. [4]

(*b*) Draw interfacing diagram between 8086 and 8259A. [4]

(*c*) Draw and discuss initialization sequence of 8259A. [4]

3. (*a*) Draw and explain mode set control word for 8255. What will be its value to initialize 8255 for the following configuration ? [6]

(*i*) Port B as mode 1 input

(*ii*) Port A as mode 0 output

(*iii*) Port C upper as input

(*iv*) Port C bit 2 as output.

(*b*) Give salient features of 8237 DMA controller. [4]

(*c*) Define the following pins of ADC 0808 : [2]

(*i*) SOC

(*ii*) EOC.

Or

4. (*a*) Draw and explain internal block diagram of 8253 and prepare the control word for the following specifications : [6]

(*i*) BCD count

(*ii*) Counter 0

(*iii*) Mode 3

(*iv*) 16-bit count.

(*b*) Draw and explain format of command word in 8279 for Keyboard/ Display Mode Set. [4]

(*c*) What do you mean by NULL modem ? Explain it with neat diagram. [2]

5. (*a*) What is the difference between minimum and maximum mode of 8086 ? [3]

(*b*) Draw 8086 based minimum mode system showing 4 × 4 matrix keyboard using 8255. [6]

(*c*) Explain the role of the following chips in maximum mode configuration : [4]

(*i*) 8288

(*ii*) 8286.

Or

6. (*a*) What is difference between memory mapped I/O and I/O mapped I/O ? [4]

(*b*) Explain the following 8087 instructions with *one* example each : [6]

(*i*) FMUL

(*ii*) FDIV

(*iii*) FBST.

(*c*) Explain 32-bit single precision format for floating point numbers. [3]

7. (*a*) Explain the following Intel 82801 1JR I/O controller Hub capabilities : [6]

(*i*) Direct Media Interface

(*ii*) PCI Express Interface

(*iii*) Serial ATA (SATA) controller.

(*b*) Draw and explain block diagram of Intel core i5 processor. [7]

Or

8. (*a*) Explain features of Intel X58 Chipset. [5]

(*b*) Explain blocks of Intel i5 motherboard : [8]

(*i*) System memory

(*ii*) Graphics system

(*iii*) USB

(*iv*) LAN subsystem.