Seat	
No.	

[4857]-1078

S.E. (Comp. Engg.) (Second Sem.) EXAMINATION, 2015

MICROPROCESSOR AND INTERFACING TECHNIQUES

(2012 PATTERN)

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

N.B. :— (i)   Answer total *four* questions :

Q. No. **1** *or* Q. No. **2**, Q. No. **3** *or* Q. No. **4**, Q. No. **5** *or* Q. No. **6** and 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*)   Draw and explain architecture of i7 processor with neat sketch.   [6]

(*b*)   List the difference between .com and .exe.   [3]

(*c*)   Explain the following 80386 addressing modes with appropriate examples :   [3]

(*i*)   Based scaled index addressing mode with displacement.

(*ii*) Direct addressing mode.

(*iii*) Register indirect addressing mode.

Or

2. (*a*) Write initialization instruction for 8259 to meet the following specifications : [4]

   (*i*) Interrupt type 64

   (*ii*) Level triggered, single, ICW4 needed

   (*iii*) Mask interrupts IR5 and IR5.

(*b*) Write a short note on TSR. [4]

(*c*) List the differences between Near and Far procedure. [4]

3. (*a*) Draw and explain the block diagram of 8255 (PPI). [4]

(*b*) List the difference between synchronous and asynchronous communication with respect to 8257. [2]

(*c*) Draw the control word format of 8279 for the following commands : [6]

   (*i*) Display Inhibit/Blanking

   (*ii*) Keyboard/Display mode set

   (*iii*) Write display RAM.

Or

4. (*a*) Explain interfacing of DMA with 8086 with a neat diagram. [4]

(*b*) Write a pgm to generate a square wave of IMS with i/p frequency of 750 kHz using 8253.

Design appropriate control word for counter I. [4]

(*c*)　Define the following terms : [4]

　　(*i*)　Accuracy

　　(*ii*)　Conversion time

　　(*iii*)　Monotonicity

　　(*iv*)　Offset error.

5.　(*a*)　Draw and explain status and control word format of 8087. [6]

　　(*b*)　Explain with proper block diagram, operating of 8086 in maximum mode. [7]

Or

6.　(*a*)　Explain the following instructions of 8087 with example : [3]

　　(*i*)　FSQRT

　　(*ii*)　FPTAN

　　(*iii*)　FLDPI.

　　(*b*)　Explain any *four* data types of 8087 with proper format. [4]

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

7. (*a*) Write the features of i5 processor. [4]

(*b*) Write short note on Serial ATA controller and QPI. [4]

(*c*) Draw and explain block diagram of ICNIO configuration. [5]

Or

8. (*a*) Draw and explain block diagram of i5 motherboard. [7]

(*b*) Explain the features of 82807 JIIR I/O controller hub. [4]

(*c*) Draw basic blocks of intel X58 chipset. [2]