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

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.

P.T.O.

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]