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[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 IR6.
- (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 1MS 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]
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]

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