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**[5057]-257**

**S.E. (Comp. Engg.) (Second Semester) EXAMINATION, 2016**

**MICROPROCESSOR AND INTERFACING TECHNIQUES**

**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Answer Q. Nos. 1 or 2, Q. Nos. 3 or 4, Q. Nos. 5 or 6, Q. Nos. 7 or 8.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

1. (a) Compare 8086, 80386 and i7 processor on the basis of architectural features. [4]
- (b) List the differneces between .com and .exe. [4]
- (c) List and explain 80386 bus cycles required to fetch and execute the instruction IN AX, 3C H. [4]

*Or*

2. (a) Explain base addressing mode. Indicate your answer with examples of instructions using these addressing mode with respect to 80386. [4]
- (b) Draw and explain IVT. [4]

P.T.O.

- (c) Write initialization instructions for 8259 to meet the following specifications : [4]
- (i) Interrupt type 64
  - (ii) Level triggered, Single, ICW4 needed.
- 3.** (a) Explain the difference between synchronous and asynchronous serial communication. [3]
- (b) Explain in brief port structure of 8255 PPI. [5]
- (c) What are different sources of errors in DAC ? [4]
- Or*
- 4.** (a) Prepare a control word to initialize 8279 in the following given keyboard/display mode : [4]
- (i) 16, 8-bit character left entry
  - (ii) Decoded scan n-key rollover.
- (b) Give the control word format for 8253/8254. [4]
- (c) Explain with a neat diagram sequence of DMA operation. [4]
- 5.** (a) Draw and explain maximum mode configuration of 8086. [7]
- (b) Write notes on the following supporting chips : [6]
- (i) 8284
  - (ii) 8286
  - (iii) 8288.

*Or*

- 6.** (a) Draw and discuss the interface between 8086 and 8087. [7]  
(b) Explain the data format for 8087 NDP in brief. [6]
- 7.** (a) Draw and explain block diagram of Intel Core i5. [7]  
(b) Explain the features of 82801 IJR I/O Controller Hub. [6]

*Or*

- 8.** (a) Draw and explain block diagram of x58 chip set. [7]  
(b) Write a short note on Serial ATA controller and QIP Technology. [6]