Total No. of Questions—**8**] [Total No. of Printed Pages—**3**

Seat No.	

[5152]-177

S.E. (Information Technology) (Second Semester) EXAMINATION, 2017

PROCESSOR ARCHITECTURE AND INTERFACING

(2012 PATTERN)

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

N.B. :— (*i*) Answer 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.

(*iv*) Assume suitable data, if necessary.

1. (*a*) Explain the following bits of EF lag register in 80386 processor :

(*i*) IOPL

(*ii*) VM

(*iii*) TF. [6]

(*b*) Explain the assembler directives in 80386 programming :

(*i*) .model

(*ii*) .data. [6]

Or

2. (*a*) Draw the timing diagram of pipelined bus cycle for write operation in 80386. Show status of important signals. [6]

(*b*) State with examples any *six* addressing modes of 80386 processor. [6]

P.T.O.

3. (*a*) Explain with a neat diagram the page translation mechanism in 80386 protected mode. [7]

(*b*) What are privileged instructions in 80386 processor ? Explain any *two* privileged instructions. [6]

Or

4. (*a*) Explain the process of entering and leaving in virtual 8086 mode of 80386. [7]

(*b*) Explain with a neat diagram the interrupt Descriptor Table in 80386. [6]

5. (*a*) Draw and explain the internal memory organization of 8051. [6]

(*b*) Draw the functional architecture diagram of 8051 microcontroller. [6]

Or

6. (*a*) Explain the following instruction of 8051 : [6]

(*i*) ADD A, # 10

(*ii*) MUL AB

(*iii*) MOVC A, @ A + PC

(*b*) Compare the following instructions of 8051 : [6]

(*i*) RET and RETI

(*ii*) SJMP and AJMP.

7. (*a*) List the interrupts supported by 8051 with their vector addresses & default priorities. [7]

(*b*) Explain the TMOD & TCON SFR of 8051 microcontroller. [6]

Or

8. (*a*) Explain the following SFR of 8051 microcontroller :

(*i*) Program Status Word

(*ii*) PCON Register. [6]

(*b*) Explain Mode 1 and Mode 2 of serial communication in 8051 microcontroller. [7]