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

Seat No.	

[4657]-587

S.E. (Information Technology) (Second Semester)

EXAMINATION, 2014

PROCESSOR ARCHITECTURE AND INTERFACING

(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.

(*iv*) Assume suitable data if necessary.

1. (*a*) State instruction example for the following addressing modes of 80386 showing physical address generation : [6]

(*i*) Direct

(*ii*) Based indexed

(*iii*) Scale indexed with displacement.

(*b*) Draw the general segment descriptor format. Explain how G (granularity) bit affects the LIMIT field. [6]

Or

2. (*a*) Compare and contrast : [6]

(*i*) .COM and .EXE

(*ii*) NEAR procedure and FAR procedure.

(*b*) Explain with suitable control signals, the timing diagram of a non-pipelined write cycle of the 80386 processor. [6]

P.T.O.

3. (*a*) Draw and explain Programmer's model of 80386 in protected mode operation. [6]

(*b*) What is privileged instruction ? Explain *two* examples of it. [6]

Or

4. (*a*) State and explain the difference between all operating modes of 80386. [6]

(*b*) Explain IDT of 80386 in detail with diagram and format. [6]

5. (*a*) Draw and explain architecture of 8051 Microcontroller. [7]

(*b*) Explain any *three* addressing modes in 8051 microcontroller with example. [6]

Or

6. (*a*) Explain the following instructions in 8051 : [6]

(*i*) ORL A, #36

(*ii*) MUL AB

(*iii*) SWAP A.

(*b*) Explain program status word (PSW) in 8051 micro-controller. [7]

7. (*a*) State and explain SFR's required for serial communication in 8051 microcontroller. [7]

(*b*) Draw and explain TCON and TMOD SFR's of 8051 microcontroller. [6]

Or

8. (*a*) List and explain an *two* operating modes of Timer of 8051. [7]

(*b*) Explain different types of interrupt in 8051. [6]