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

Seat No.	

[4957]-1087

S.E. (Information Technology) (Second Semester) EXAMINATION, 2016 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*) What is debugger ? State functions of it. Explain any *three* commands of the DOS debugger. [6]

(*b*) Describe the functionality of co-processor interface signal of 80386. [6]

Or

2. (*a*) Define procedure. Explain the use of CALL and RET instructions and PROC and ENDP directives with suitable example. [6]

(*b*) With the help of diagram explain address translation for 80386 in Real mode. [6]

3. (*a*) Explain the translation lookaside buffer with suitable diagram. [6]

(*b*) Explain different types of exceptions in 80386 with suitable example of each. [6]

P.T.O.

Or

4. (*a*) Draw CALL gate and explain the meaning of each bits of it. [6]

(*b*) What is multi-core processor ? Draw and explain Intel dual core architecture. [6]

5. (*a*) Explain the significance of the following pins of 8051 micro-controller : [6]

(*i*) XTAL

(*ii*) INT1

(*iii*) TXD.

(*b*) What do you mean by conditional and unconditional JMP instructions ? Explain AJMP, LIMP and SJMP instructions of 8051 with suitable example of each. [7]

Or

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

(*i*) MOVX A, @ Ri

(*ii*) XCH A, Rn

(*iii*) CPL bit.

(*b*) List different addressing modes of 8051 and explain the same with suitable example of each. [7]

7. (*a*) Draw interrupt structure of 8051 and explain the same. [7]

(*b*) Define timer operating mode 1 with reference to 8051. [2]

(*c*) Draw and explain the bit pattern of SCON register. [4]

Or

8. (*a*) Design a minimal system for keyboard interfacing using 8051. [7]

(*b*) Give the importance of RI and TI flags with respect to 8051 microcontroller. [2]

(*c*) Explain in detail Synchronous and Asynchronous serial communication of 8051 microcontroller. [4]