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**[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]