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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]

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