

Total No. of Questions—8]

[Total No. of Printed Pages—3

Seat No.	
-------------	--

**[5057]-267**

**S.E. (Information Technology) (II Sem.) 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 are assembler directives ? Explain any 3 directives used in 80386 programming. [6]  
(b) Differentiate between Procedure and Macros. [6]

*Or*

2. (a) What is the difference between pipelined and non-pipelined bus cycles of 80386 ? Draw the timing diagram of pipelined bus cycle for write operation. [6]  
(b) Draw and explain Machine Status Word of 80386 processor. [6]

P.T.O.

3. (a) Explain the non-system (Code & data) segment descriptor in 80386 protection mode. [6]  
(b) Explain different registers used for paging in 80386 and how page level protection is achieved. [6]

*Or*

4. (a) Explain fault, trap and aborts in 80386 processor. [6]  
(b) What is dual core processor ? Explain the features of dual core processor. [6]
5. (a) Explain the function of the following pins of 8051 : [6]  
(i) PSEN  
(ii) EA/VPP.  
(b) Draw and explain architecture of 8051 microcontroller. [7]

*Or*

6. (a) Explain the following instructions of 8051 microcontroller : [6]  
(i) XCHD A, @R1  
(ii) MOV C, bit  
(iii) SETB 86h.  
(b) What is size of internal RAM of 8051 ? With a suitable diagram explain the organization of internal RAM. [7]

[5057]-267

2

7. (a) Explain SBUF and SCON registers of 8051 microcontroller. [6]  
(b) State and explain SFR's related to Timer/Counter in 8051 microcontroller. List 4 operating modes of timer. [7]

*Or*

8. (a) Draw and explain the interrupt structure of 8051. [7]  
(b) How many I/O ports are available in 8051 microcontroller ?  
How to program them as input or output port ? Explain alternate functions of port 3 pins. [6]