

Total No. of Questions—8]

[Total No. of Printed Pages—3

Seat No.	
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**[4957]-1075****S.E. (Computer Engineering) (First Semester)****EXAMINATION, 2016****MICROPROCESSOR ARCHITECTURE****(2012 PATTERN)****Time : Two Hours****Maximum Marks : 50**

**N.B. :—** (i) Answer any *four* questions, 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.

1. (a) Explain all control registers (CRO to CR3) of 80386DX microprocessor in detail. [6]
- (b) What is maximum memory addressing capability of 8086 processor ? In what way 80386 system is different from 8086 memory organization ? [4]
- (c) Explain the significance of the following signals with reference to 80386 microprocessor : [2]
  - (i) BE# to BE#
  - (ii) READY.

*Or*

2. (a) What is MSW (Machine status word) in 80386DX microprocessor ? Draw its format and explain. [6]

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- (b) Explain various memory /10 interface signals of 80386DX processor [4]
- (c) Enlist the features of 8086 microprocessor [2]
- 3.** (a) What is Virtual 86 mode. Explain in detail. [5]
- (b) With the help of suitable timing diagram explain the pipelined bus cycles in 80386 processor. [4]
- (c) Explain the following instructions with examples : [3]
- (i) BSR
- (ii) CLTS
- (iii) DAA.

*Or*

- 4.** (a) Explain in detail how to switch from real mode to V86 mode. [6]
- (b) Compare and contrast procedure and macro. [4]
- (c) Differentiate between DIV and IDIV instruction. [2]
- 5.** (a) Explain common configurations that support multiprocessing in detail. [6]
- (b) Explain in detail different points to be considered to take full advantage of multicore platform. [4]
- (c) What are the differences between multi-processing and multi-tasking. [3]

*Or*

- 6.** (a) Write a short note on multicore design and implementation. [6]
- (b) Differentiate between multiprogramming and multiprocessing. [4]

- (c) List the advantages and disadvantages of Virtualization Technology. [3]
- 7.** (a) Explain any six 64-bit mode instruction. [6]  
(b) Write a short note intel Hyper Threading Technology [4]  
(c) List the features of SSE2. [3]

*Or*

- 8.** (a) Explain with functional block diagram of Intel microarchitecture code name Nehalem. [6]  
(b) What is single instruction multiple data model for parallel programming. [4]  
(c) Briefly explain the compatibility mode and 64-bit mode of IA 64 architecture. [3]

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