

Total No. of Questions—8]

[Total No. of Printed Pages—3

Seat No.	
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[4857]-1075

S.E. (Computer Engineering) (First Semester)

EXAMINATION, 2015

MICROPROCESSOR ARCHITECTURE

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Answer any *four* questions **1 or 2, 3 or 4, 5 or 6**
and **7 or 8**.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

1. (a) Explain registers available in 8086 microprocessor. [3]
- (b) Explain how physical address is formed in 80386 Dx microprocessor. [6]
- (c) Explain the following signal function of 80386 Dx microprocessor : [3]
 - (1) Lock #
 - (2) BE0 # – BE3 #
 - (3) HOLD and HLDD.

P.T.O.

Or

- 2.** (a) Explain *four* level of hierarchical protection in 80386 Dx microprocessor. [3]
- (b) Draw and explain the architecture of 8086 microprocessor. [6]
- (c) What is maximum size of each segment in 80386 Dx microprocessor ? Why ? [3]
- 3.** (a) Explain non-pipelined read cycle with timing diagram. [5]
- (b) List and explain iteration control instructions of 80386 Dx microprocessor. [4]
- (c) Briefly explain how to set V86 mode [3]

Or

- 4.** (a) Explain *four* different processor control instructions. [4]
- (b) Explain non-pipelined write cycle with timing diagram. [5]
- (c) Briefly explain how to be protected mode. [3]
- 5.** (a) What is multicore architecture ? Explain. [3]
- (b) Explain the execution model of SIMD with neat diagram. [6]
- (c) Explain software developer's viewpoint about multicore processor. [4]

Or

- 6.** (a) Write different advantages of multicore design. [3]
(b) Explain different multiprocessor architectures. [6]
(c) What is front side bus, back side bus ? Explain. [4]
- 7.** (a) Explain different instruction sets for IA-64 architecture. [6]
(b) Explain Intel Hyperthreading Technology. [4]
(c) What are the differences between IA-32 basic execution environment and 64 bit mode execution environment ? [3]

Or

- 8.** (a) Explain X86 virtualization technology in detail. [6]
(b) Explain data types of 64 bit architecture. [4]
(c) Enlist features of SSE. [3]