

Total No. of Questions—8]

[Total No. of Printed Pages—3

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

[5057]-255

S.E. (Computer Engg.) (First Semester) EXAMINATION, 2016

MICROPROCESSOR ARCHITECTURE

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Attempt Q. Nos. **1 or 2**, Q. Nos. **3 or 4**, Q. Nos. **5 or 6**, Q. Nos. **7 or 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) Describe call gate descriptor. [3]
- (b) Describe in detail Memory Management Unit of 80386DX. [6]
- (c) Define segment descriptor. [3]

Or

2. (a) Compare and contrast between 8086 with 80386. [3]
- (b) Describe in detail descriptor tables and descriptor with suitable diagram representation. [6]
- (c) Draw 80386 block diagram. [3]

P.T.O.

3. (a) Describe in detail privilege levels of 80386. [3]
(b) Explain in brief linear-to-physical address translation. [5]
(c) Draw and explain flag register of 80386. [4]

Or

4. (a) Draw and explain complete bus cycle state diagram. [3]
(b) Describe in detail of control, test and debug register of 80386. [5]
(c) Contrast between POPA, POPAD. [4]
5. (a) Define multicore. List types of multicore architectures. [3]
(b) What do you, as a designer and developer of software, need to know about moving from sequential programming and single core application development to multicore programming ? [6]
(c) What are differences between dual and quad core CMP. [4]

Or

6. (a) Enlist features of parallel programming with diagram. [3]
(b) Describe with block diagram of 'The BUS' connection. [6]
(c) Write in brief hyperthreading CMP. [4]
7. (a) Explain entering and leaving VM 86 mode in detail. [3]

- (b) Draw and explain block diagram of 64 bit architecture. [6]
- (c) Write a short note on virtualization technology. [4]

Or

- 8.** (a) Describe in detail Intel Microarchitecture code name Nehalem. [3]
- (b) Explain in detail registers in IA 32 architecture. [6]
- (c) Write short note on SIMD instruction. [4]