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Seat No.	
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**[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]