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 seqeuntial 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 diagrm 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]