[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.

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 I-A-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]