Total No. of Questions—8]　　　　　[Total No. of Printed Pages—4

Seat
No.

[4657]-575

S.E. (Computer Engg.) (First Semester) EXAMINATION, 2014

MICROPROCESSOR ARCHITECTURE

(2012 PATTERN)

Time : Two Hours　　　　　　　　　　　Maximum Marks : 50

N.B. :— (*i*)　Attempt Q. No. **1** *or* Q. No. **2**, Q. No. **3** *or* Q. No. **4**,

　　　　　Q. No. **5** *or* Q. No. **6**, Q. No. **7** *or* Q. No. **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*)　Explain the following pins of 8086 :　　　　　　[6]

　　　(*i*)　$\overline{\text{BHE}}$

　　　(*ii*)　ALE

　　　(*iii*)　MN/$\overline{\text{MX}}$

　　(*b*)　Explain flag register of 80386.　　　　　　　　[4]

　　(*c*)　What is the difference between GDT and LDT ?　　[3]

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2. (*a*) What are the functions of the following pins : [6]

(*i*) NMI

(*ii*) ERROR#

(*iii*) $\overline{BE_0} - \overline{BE_3}$.

(*b*) Explain memory organization of 8086. [4]

(*c*) How is logical address converted to physical address in 8086 ? [3]

3. (*a*) What are characteristics of address pipelining in 80386 ? [4]

(*b*) Explain timing diagram for pipelined write cycle. [5]

(*c*) Explain macro in assembly language programming with syntax and example. [3]

Or

4. (*a*) Explain the following instructions of 80386 : [5]

(*i*) SLDT

(*ii*) LEA

(*iii*) OUT

(*iv*) CMP

(*v*) XCHG.

(*b*)   Explain timing diagram for read cycle in non-pipelined

mode.   [4]

(*c*)   Enlist and explain any *three* addressing modes of 80386.   [3]

5.   (*a*)   What are the *three* common configurations that support

multiprocessing ? Explain.   [6]

(*b*)   What is single instruction multiple data model for parallel

processing ?   [4]

(*c*)   Define CMP.   [3]

Or

6.   (*a*)   What are the advantages of multicore designing ?   [3]

(*b*)   What are the advantages of cache memory ?   [4]

(*c*)   What are the different architectures of multicore ? Explain. [6]

7.   (*a*)   Explain hyperthreading with advantages and disadvantages. [5]

(*b*)   Give the features of SSE.   [4]

(*c*)   Enlist data types of 64-bit architecture.   [3]

Or

8. (*a*) Explain virtualization technology. [5]

(*b*) What are the operating modes of Intel 64-bit architecture ? [4]

(*c*) What are the differences between IA-32 bit Basic Execution Environment and IA-64 bit Basic Execution Environment ? [3]

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