Total No. of Questions—**12**] [Total No. of Printed Pages—**3**

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S.E. (Infor. Tech.) (Second Semester) EXAMINATION, 2010

PROCESSOR ARCHITECTURE AND INTERFACING

(2008 COURSE)

Time : Three Hours **Maximum Marks : 100**

N.B. :— (*i*) Answer any *three* questions from each Section.

(*ii*) Answers to the two Sections should be written in separate answer-books.

(*iii*) Neat diagrams must be drawn wherever necessary.

(*iv*) Figures to the right indicate full marks.

(*v*) Assume suitable data, if necessary.

SECTION I

1. Draw the timing diagram of non-pipelined read cycle followed by pipelined, write cycle and explain. [16]

Or

2. (*a*) Explain Control register set of 80386 with their formats. [10]

(*b*) Give difference between 8086 and 80386. [6]

3. (*a*) How to generate .asm, .obj, .lst and .exe ? Give its significance. [10]

(*b*) Draw Interfacing diagram of 8086 with 8255 and explain. [6]

P.T.O.

Or

4. (*a*) Draw block diagram of 8255 and explain. [10]

(*b*) Explain the directives EXTRN and PUBLIC. [6]

5. (*a*) How to convert Logical address to Physical address in Real mode of 80386 ? Explain with example. [8]

(*b*) Draw the flow chart for switching from Real mode to Protected mode and returning back to RM. (All hardware and software activities should be considered). [10]

Or

6. Explain Logical to Physical address conversion when 80386 operating in Protected Mode. Draw necessary diagrams and formats. [18]

SECTION II

7. (*a*) Compare RM, VM and PM modes of 80386. [10]

(*b*) Write a short note on TSS of 80386. [6]

Or

8. (*a*) What is Privileged Instructions ? Explain two examples of Privileged Instructions. [8]

(*b*) Explain IDT of 80386 in detail with diagram and format. [8]

9. (*a*) Draw Internal memory organization of 8051. Explain. [8]

(*b*) Explain Interrupt structure of 8051 with their priority structure. [10]

Or

10. (*a*) Draw Interfacing diagram of 8051 with 8K × 8 RAM and 16 K × 8 EPROM. [10]

(*b*) Draw 8051 functional architecture diagram. [8]

11. Explain various operating modes of Timer of 8051 microcontroller. [16]

Or

12. Explain various operating modes of serial communication of 8051 microcontroller. [16]