

Roll No.

Printed Pages : 2

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BT-7/M-17

ADVANCED MICROPROCESSORS

Paper-ECE-423-E

Time allowed : 3 hours

[Maximum marks : 100]

Note :- Attempt any five questions, selecting at least one question from each unit.

Unit-I

- (a) Define interrupts and exception and explain in detail all the interrupts and exceptions encountered by x86 family of processors and the steps taken by the processor to resolve them. 15
- (b) Explain in detail all the working modes for x86 processors and their respective transition mechanisms. 5
- (a) Explain in detail the different operating modes of X86 families of processors and also show the transition among various modes with the help of a suitable diagram. 10
- (b) Explain in detail the concept of pipelining in Pentium processor. Support your answer with a suitable diagram and explain the different stages of pipelining in Pentium processor. 10

Unit-II

- (a) Draw the internal architecture of Pentium-III processor and explain the functioning in detail. 15
- (b) A page linear address for IA-32 processor is 30000000H. Formulate a physical address out of it and represent the conversion with the help of a diagram. 5

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- 4. (a) Draw the internal architecture of 80286 microprocessor, and explain it in detail. 10
- (b) Explain in detail the segment and gate descriptor formats used in 80286. 10

Unit-III

- 5. (a) Draw the internal architecture of 80287 co-processor and also draw the register set for the same processor.
- (b) Explain the task management concept for P-6 family of processors. 5
- 6. (a) Draw the debug registers and control registers format used in Pentium processor and explain them in detail. 10
- (b) Explain the working modes of 80286 processor in detail and also show the concept of physical address generation in the corresponding modes. 10

Unit-IV

- 7. (a) Draw the internal architecture of 80387 microprocessor and explain the function of each block in detail. 15
- (b) Explain the register set of 80487 co-processor. 5
- 8. Explain the following:
 - (a) Branch Prediction 5
 - (b) Assembler Directives
 - (c) x87 Transcendental Instructions, Load Constants Instructions. 5
 - (d) Physical Address 5

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