Register Number……

M.E. DEGREE EXAMINATIONS: DECEMBER 2009

First Semester

APPLIED ELECTRONICS

ANE515: Advanced Processors

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

Answer ALL Questions:-

PART A (10 x 2 = 20 Marks)

1. What is Instruction level parallelism?
2. What are the advantages of segmented memory?
3. What is meant by superscalar architecture of Pentium?
4. How does Pentium access 4M pages?
5. What is Virtual 8086 mode?
6. Where does the Pentium begin to execute software for an SMI Interrupt Input?
7. List the Thumb- ARM instruction differences.
8. What is the function of the following ARM Instructions?

   (i) LDMIA r_1, (r_0, r_2, r_5) (ii) LDMFD r_{13}!, (r_2 - r_9)
9. Mention the uses of media processor in Embedded systems.
10. List the salient features of Code Composer studio IDE?

PART B (5 x 16 = 80 Marks)

11. a) Explain the different addressing modes used in modern microprocessor architectures.

[OR]

b) Discuss the various techniques used to minimize hazard in pipe-lined processor.

12. a) Explain the operation of Integer unit and Floating point unit pipeline in Pentium.

[OR]

b) (i) Describe the branch prediction mechanism supported by Pentium microprocessor.

(ii) Discuss the branch group instructions of Pentium with suitable examples.

13. a) Explain how multitasking environment is effectively handled by Pentium.

[OR]

b) Explain the exceptions and interrupts of Pentium microprocessor.

14. a) (i) Describe the 3-stage pipeline ARM organization.

(ii) Explain the control flow instructions of ARM Processor with suitable examples.

[OR]

b) (i) Describe the operation carried out by the different data processing instruction in ARM processor.

(ii) Illustrate the thumb programmer's model.

15. a) (i) List the processing functions that should be provided by a video-processor.

(ii) Show the block diagram of a typical media processor and explain its organization.

[OR]

b) (i) List the features offered by the Cyclone device families.

(ii) Describe briefly the Cyclone Architecture.

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