Register Number: ……

M.E DEGREE EXAMINATIONS: JANUARY 2011

First Semester

APPLIED ELECTRONICS

ANE515: Advanced Processors

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

Answer All the Questions:-

PART A (10 x 2 = 20 Marks)

1. Define Hit & Miss ratio of cache memory.
2. What is meant by structural hazards?
3. List the properties of RISC computers.
4. Indicate the bit positions of Pentium processor flag register.
5. Draw the structure of floating point pipeline stage of Pentium processor.
6. What are the uses of a segment selector of Pentium processor?
7. What is meant by multitasking?
8. What are the different operating modes supported by ARM processors?
9. Differentiate ARM instruction set & Thumb instruction set.
10. List the important features of a video signal processor.

PART B (5 x 16 = 80 Marks)

11. a) With neat diagram, Explain the different levels of memory hierarchy supported by the microcomputer system in detail.

(OR)

b) (i) Explain the different types of addressing modes supported by the advanced processors with an example. (10)

(ii) What is meant by pipelining? Explain four stage instruction pipeline process in detail. (6)

12. a) With neat architectural diagram, explain the functional blocks of the Pentium processor in detail.

(OR)

b) Write short notes on the following terms with respect to Pentium processor:

(i) Bus Cycle States (ii) Burst Transfer Cycle

(iii) Super Scalar Architecture (iv) Virtual 8086 model

13. a) Explain in detail about the protected mode of operation of the Pentium processor and mention how logical address is converted to a physical address.

(OR)

b) How many interrupts are supported by the Pentium processor? Explain the interrupt processing operation of the Pentium in the real mode.

14. a) With neat block diagram, explain the pipeline stages of an ARM processors in detail.

(OR)

b) In detail, describe the various types of THUMB instructions of ARM processor with suitable examples.

15. a) With relevant architectural diagram, explain the operation of an Altera Cyclone Processor in detail.

(OR)

b) In detail, explain the various steps of video codec design procedure and its platforms.

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