

Register Number:

M.E DEGREE EXAMINATIONS: JUNE 2013

Second Semester

POWER ELECTRONICS AND DRIVES

PED508: Advanced Microprocessor & Microcontrollers

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

1. Define Hit ratio in cache memory.
2. Give the disadvantages of RISC processors
3. Draw the software model of Pentium processor
4. What is the function of NEG instruction in Pentium?
5. What is the use of ARM CPSR register?
6. State the thumb- ARM characteristic feature differences
7. Give the features of 68HC11
8. List the four bit manipulation instructions in 68HC11
9. What is the use of FSR register in PIC μ C?
10. List the function of different ports in PIC μ C

PART B (5 x 16 = 80 Marks)

11. a) (i) Explain in detail the 3 types of pipeline hazards with suitable examples. Explain how these hazards can be resolved. (10)
- (ii) What are the different types of addressing modes in Advanced μ P? Explain any 2 modes with examples. (6)

(OR)

- b) (i) Discuss the Register window technique of RISC system. (10)
- (ii) Discuss the advantages and shortcomings of RISC. (6)

12. a) (i) Explain the operation of Pentium instruction and data caches (10)
- (ii) Write about branch prediction logic in Pentium (6)

(OR)

- b) (i) What are the different types of instruction sets in PENTIUM? Explain the string instruction set with examples. (8)
- (ii) Explain the Virtual 8086 mode of Pentium processor (8)

13. a) Explain the instruction set of ARM giving at least one example for each group (8)
(OR)
b) With neat sketches discuss in detail the ARM architecture and ARM CPU cores
14. a) (i) Explain the different types of addressing modes in 68HC11 (8)
(ii) Describe the parallel I/O port structure of 68HC11 (8)
(OR)
b) (i) Explain the timer concept in MC68C11 microcontroller (8)
(ii) Explain the ADC concept in MC68C11 microcontroller. (8)
15. a) (i) Describe the instruction set of PIC microcontroller giving one example in each group of instruction (10)
(ii) Discuss the addressing modes of PIC μ C with suitable examples (6)
(OR)
b) (i) What are the timers used in PIC Micro controller? Explain any one timer in detail. (8)
(ii) Explain the different types of serial interface modes used in PIC (8)
