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Reg. No. :

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Question Paper Code : 91345

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Fourth Semester

Computer Science and Engineering

CS 2253/CS 43/CS 1252 A/080250011/10144 CS 404 — COMPUTER
ORGANIZATION AND ARCHITECTURE

(Common to Information Technology)

(Regulation 2008/2010)

(Also common to PTCS 2253/10144 CS 404 – Computer Organisation and
Architecture for B.E. (Part-Time) Third Semester – CSE – Regulation 2009/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What do you understand from word length?
2. What is super scalar operation?
3. Define nano programming.
4. What do you mean by emulation?
5. What is the use of exception handling?
6. How do you handle data hazard?
7. Differentiate the memory types based on size, speed and cost.
8. Define hit rate and miss penalty.
9. List the components in simple input I/O interface.
10. What are the modes of operation available in DMA?

PART B — (5 × 16 = 80 marks)

11. (a) Draw the block diagram and explain the steps involved in the basic operational concepts. (16)

Or

- (b) (i) Why do we use addressing mode? Explain the basic addressing modes. (10)
(ii) Write short notes on assembler directives. (6)

12. (a) With a neat flow chart explain the micro program sequencing. (16)

Or

- (b) Draw necessary diagrams and explain the control signal generation using hardwired control. (16)

13. (a) Discuss the following issues in unconditional branches with examples

- (i) Instruction Queue (8)
(ii) Pipelining. (8)

Or

- (b) Explain the following with examples :

- (i) Delayed branches (6)
(ii) Dynamic branch predictions. (10)

14. (a) Explain the following DRAMS with block diagrams :

- (i) Synchronous DRAM (8)
(ii) Asynchronous DRAM. (8)

Or

- (b) Explain the virtual memory address translation with necessary tables and diagrams. (16)

15. (a) Explain the working of Universal Serial Bus (USB). (16)

Or

- (b) How do you handle multiple and simultaneous interrupts? (16)