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**Question Paper Code : 57241**

**B.E/B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016**

**Sixth Semester**

**Electronics and Communication Engineering**

**CS 6303 – COMPUTER ARCHITECTURE**

**(Common to Information Technology)**

**(And also common to Fifth Semester Elective – Electronics and Instrumentation Engineering, Instrumentation and Control Engineering, Fifth Semester – Robotics and Automation Engineering and Third Semester Computer Science and Engineering)**

**(Regulations 2013)**

**Time : Three Hours**

**Maximum : 100 Marks**

**Answer ALL questions.**

**PART – A (10 × 2 = 20 Marks)**

1. How to represent Instruction in a Computer System ?
2. Distinguish between auto increment and auto decrement addressing mode.
3. Define ALU.
4. What is Subword Parallelism ?
5. What are the advantages of pipelining ?
6. What is Exception ?
7. State the need for Instruction Level parallelism.
8. What is Fine grained Multithreading ?
9. Define Memory hierarchy.
10. State the advantages of virtual memory.

**PART – B (5 × 16 = 80 Marks)**

11. (a) Discuss about the various components of a computer system. (16)

**OR**

- (b) Elaborate the different types of addressing modes with a suitable example. (16)

12. (a) Explain briefly about floating point addition and Subtraction algorithms. (16)

**OR**

- (b) Define Booth Multiplication algorithm with suitable example. (16)

13. (a) What is pipelining ? Discuss about pipelined data path and control. (16)

**OR**

- (b) Briefly explain about various categories of hazards with examples. (16)

14. (a) Explain in detail about Flynn's classification. (16)

**OR**

- (b) Write short notes on : (16)

(i) Hardware multithreading

(ii) Multicore processors.

15. (a) Define Cache Memory ? Explain the Various Mapping Techniques associated with cache memories. (16)

**OR**

- (b) Explain about DMA controller, with the help of a block diagram. (16)