

**B.E. 5th Semester (ECE) Examination,  
December-2013**

**COMPUTER ARCHITECTURE AND ORGANISATION  
Paper-CSE-210-E**

Time allowed : 3 hours ] [ Maximum marks : 100

*Note : Answer any five questions. All questions carry equal marks.*

1. (a) Draw and explain Master Slave flip-flop.  
(b) Draw and explain the basic block diagram of half adder and full adder.
2. (a) Compare the architecture of SISD, MISD, MIMD. Also compare their applications.  
(b) Explain the concept of MIPS and MFLOPS.
3. (a) Draw and explain the Architecture of SPARC processor.  
(b) Define addressing mode. Explain different type of addressing modes with suitable examples.
4. (a) Explain the implementation process of control unit.  
(b) What is micro Instruction sequencing ? Explain with the help of suitable example.

5. (a) What is the need for memory hierarchy? Compare the main memory with cache memory.
- (b) A digital computer has a memory unit of  $64k \times 16$  and a cache memory of 1k words. The cache uses direct mapping with a block size of four words.
- (i) How many blocks can the cache accommodate?
- (ii) How many bits are there in the tag, index, block and words field of the address format?
- (iii) How many bits are there in each word of cache and how they are divided into functions?
6. (a) State and explain Amdahl's law.
- (b) Describe parallelism. What are its objective and applications?
7. (a) Explain type of instruction in 8086 in detail.
- (b) What are the various types of interrupts? Explain.
8. Write short note on :
- (a) Associative Memory
- (b) Control flow.