

Paper code: 13509  
1509  
B.sc. (Computer Science) (Part 1)  
Examination, 2013  
Paper No. 3.3  
**COMPUTER ARCHITECTURE**

**Time: Three Hours]**

**[Maximum Marks: 34**

**Note:** Attempt *five* questions in all selecting at least one question from each Unit.

**Unit-1**

1. What do you mean by Basic computer organization and design? Explain in Details.
2. (a) What are general purpose registers? Explain in brief.  
  
(b) Differentiate maskable and non-maskable interrupts.

**Unit-2**

3. What you mean by pipelining? Explain Arithmetic pipelining with an example.
4. (a) What is vector processing? Explain in brief.  
(b) Draw the block diagram of SIMD array processor and explain in brief.

**Unit-3**

5. (a) Perform the following Arithmetic operations.
  1.  $AB6_{16} + 2A9_{16} = ?$
  2.  $231_8 - 162_8 = ?$  
(b) Derive an algorithm in flowchart from for the non-restoring method of fixed-point binary division.
6. (a) What if floating point arithmetic operations?  
(b) Design an array multiplier that multiplies two 4-bit numbers. Use AND gates any binary adders.

**Unit-4**

7. What do you mean by Direct Memory Access? Draw the block diagram of DMA controller and explain its working.
8. (a) What is Priority Interrupt? Explain Daisy chain priory interrupt in brief.  
  
(b) What is Asynchronous Data Transfer Scheme?

**Unit-5**

9. (a) What a programme in assembly language to find the sum of series of any given length using self-explanatory remark.  
(b) What do you mean by Data Transfer micro-Instructions? Explain in brief.
10. (a) Draw the block Diagram internal architecture of Intel 8085 microprocessor and explain its working in brief.  
(b) What is transfer? Explain compiler Assembler in brief.

.....End.....

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