

**FACULTY OF SCIENCE**

**M.Sc. IV - Semester (CBCS/Non-CBCS)(New) Examination, April / May 2014**

**Subject: Physics**  
**(Specialization : Electronic Instrumentation)**  
**Paper - IV (404): PC Architecture**

**Time : 3 Hours**

**Max. Marks: 80**

**Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.**

**PART – A (8 x 4 = 32 Marks)**  
**(Short Answer Type)**

- 1 List the register for the basic computer and explain their functions.
- 2 Draw the instruction formats for a basic computer and explain.
- 3 What is pseudo instruction? Explain any two pseudo instructions.
- 4 Explain the logical operations of a basic computer.
- 5 Mention the various addressing modes of basic computer.
- 6 What is Booth multiplication Algorithm?
- 7 Write a short note on DMA.
- 8 Explain Isolated I/O and memory mapped I/O.

**PART – B (4 x 12 = 48 Marks)**  
**(Essay Answer Type)**

- 9 (a) Explain the design of Basic computer system using suitable diagram.  
**OR**  
(b) Discuss the interrupt cycle using suitable flow chart.
- 10 (a) Explain programming arithmetic operations of basic computer with suitable examples.  
**OR**  
(b) Explain the rules of assembly language programming using suitable examples.
- 11 (a) Discuss the stack organization in CPU.  
**OR**  
(b) Explain in detail characteristics of RISC and CISC computer.
- 12 (a) Explain multiplication of floating point number using a neat flow chart diagram.  
**OR**  
(b) Describe various asynchronous data transfer schemes.

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