



Code No. : 840

**FACULTY OF SCIENCE**  
**M.Sc. IV Semester Examination, April/May 2013**  
**PHYSICS (Electronics and Instrumentations Spl.)**  
**Paper – IV (404) : PC Architecture**

Time : 3 Hours]

[Max. Marks : 64

**Note : Answer all questions from Section A and Section B.**

**SECTION – A**

**(8×3=24 Marks)**

1. Explain effective address using suitable example.
2. Write a program to multiply two positive numbers. Explain with suitable flowchart.
3. Briefly explain the general register organization of CPU.
4. Explain the Micro instruction format.
5. Describe the hardware divide algorithm.
6. Write briefly about vector processing.
7. Explain Asynchronous Serial Transmission.
8. List most common auxiliary memory devices used in a computer system. Explain any one of them.

**SECTION – B**

**(4×10=40 Marks)**

9. a) Describe the working of an assembler using neat flowcharts.  
OR  
b) Explain control functions and micro operations of memory reference instruction of basic computer.
10. a) Explain in detail design of a control unit.  
OR  
b) Explain in detail stack organization of CPU.
11. a) What is Instruction pipeline ? Explain.  
OR  
b) Explain multiplication of floating point numbers using a neat flowchart diagram.
12. a) Explain in detail Input-Output interface.  
OR  
b) Explain in detail Memory Management Hardware.