



Code No. : 839

**FACULTY OF SCIENCE**  
**M.Sc. IV Semester Examination, April/May 2013**  
**PHYSICS (Electronics and Instrumentation Spl.)**  
**Paper – III (403) : Embedded Systems and Applications**

Time : 3 Hours]

[Max. Marks : 64

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

**SECTION – A**

**(8×3=24 Marks)**

1. Distinguish between CISC and RISC processors.
2. Explain flag register of 8051 microcontroller.
3. Write a time delay program for 1 ms.
4. Explain 'Logic' and 'compare' instructions of 8051 microcontroller.
5. Explain power On Reset (POR) and Brown Out Reset (BOR) of PIC microcontroller.
6. Distinguish between the STATUS registers of PIC16C6X and PIC16F877 microcontrollers.
7. Explain the connecting of electromagnetic relay to microcontroller.
8. Explain the external data memory interface with microcontroller.

**SECTION – B**

**(4×10=40 Marks)**

9. a) List addressing modes of 8051 microcontroller and explain them with suitable examples.  
OR  
b) Explain Assembly Language programming of 8051 microcontroller.
10. a) Write a program of 8051 microcontroller, to generate square wave of 2KHz (Assume XTAL = 11.0592 MHz) using Timer 0 and 16 bit mode.  
OR  
b) Explain LOOP, JUMP and CALL instructions of 8051 microcontroller with suitable examples.

(This paper contains 2 pages)



11. a) Describe the architecture of PIC 16F877.

OR

b) Explain instruction of PIC 16C6X/7X with suitable examples.

12. a) Explain LVDT and its interface with microcontroller.

OR

b) Write about digital PID controllers.

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