

Code No. 9404 / CBCS / Non-CBCS

FACULTY OF SCIENCE**M.Sc. IV - Semester (CBCS/Non-CBCS) Examination, April / May 2014****Subject: Physics****(Specialization : Electronic Instrumentation)****Paper – III New / II (Old): Embedded System of Applications****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 Compare the features of RISC and CISC processors.
- 2 Explain the stack operation of 8051.
- 3 Explain signed and unsigned numbers with examples.
- 4 Write the hardware interrupts of 8051.
- 5 Explain the registers of PIC 16C 6 x / 7x controller.
- 6 What are flash microcontroller? Explain.
- 7 Explain the interfacing of 7-segment display with 89C51.
- 8 What is a PID controller? What are its applications?

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

- 9 (a) Draw the functional diagram of 8051 and explain the function of each block. How is the ROM space used?
OR
(b) Discuss in detail, the various registers and register banks of 8051 microcontroller.
- 10 (a) Explain the logical and control transfer instructions of 8051 with suitable examples.
OR
(b) Write assembly language programs to generate 1 sec delay using conventional program and using the internal timer of 8051.
- 11 (a) Draw the pin diagram of PIC 16C61 / C71 and explain the function of each pin.
OR
(b) Discuss the register and memory organizations of PIC 16 F8 xx Flash microcontroller.
- 12 (a) With neat circuit diagram, explain the interfacing of LCD with 89C51 and develop software to display alphabets.
OR
(b) Explain in detail the interfacing of stepper motor to the microcontroller 8051.
