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Code No. 4336 / CBCS / NON-CBCS

FACULTY OF SCIENCE

M.Sc. IV – Semester Examination, May / June 2015

Subject: Physics (Electronic Instrumentation Spl.)

Paper – III New / II Old

Embedded System and Its 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 (8x4 = 32 Marks)

[Short Answer Type]

- 1 Compare the features of RISC and CISC processors
- 2 Explain the bit manipulation instructions of 8051
- 3 What are signed and unsigned numbers? Explain.
- 4 Draw the circuit diagram of interfacing 8051 with MAX 232
- 5 Mention different addressing modes of PIC 16C61/C71
- 6 Explain the interrupts of PIC 16F8xx flash microcontroller
- 7 Draw the interfacing circuit of 89C51 with push buttons
- 8 What is a PID controller? What are its applications?

PART – B (4x12 = 48 Marks)

[Essay Answer Type]

- 9 a) Compare the embedded devices with external memory devices.
b) Draw the block diagram of 8051.
OR
c) Explain the division of ROM and RAM space on-chip of 89C51.
d) Explain the memory access using various addressing modes.
- 10 a) Explain the logical instructions of 8051 with examples.
b) Explain the single bit instructions.
OR
c) Write a program to create a time delay.
d) Write steps involved in writing program to transmit data using serial communications.
- 11 a) Explain the important features of PIC microcontrollers.
b) Draw the pin diagram of PIC 16C61/71 microcontroller.
OR
c) Draw the pin diagram of PIC 16F8xx microcontroller.
d) Explain the memory organization of the above flash controller.
- 12 a) Draw the circuit diagram of connecting LEDs with microcontroller.
b) Explain the interfacing of ADC with 89C51.
OR
c) What is digital thermometer? Explain its designing.
d) Explain how dc motor is controlled using 89C51.
