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Code No. 3268/CORE

FACULTY OF SCIENCE

M. Sc. IV – Semester Examination, May / June 2018

Subject : Physics
(Specialization: Electronic Instrumentation)

Paper – IV (A)
Embedded Systems 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 (8 x 4 = 32 Marks)
(Short Answer Type)

1 Distinguish between Harvard and Von Neumann architectures.
2 Explain the data types and directives in 8051 microcontroller.
3 What are the signed and unsigned numbers. Explain with examples.
4 Write and discuss the logical instructions.
5 What are the special features of PIC microcontrollers.
6 Explain the I/O ports of PIC microcontrollers.
7 Explain the structure of Seven segment display.
8 What is the principle of stepper motor. Explain.

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

9 (a) Draw the block diagram of 8051 microcontroller and explain each block.

OR

(b) List out various addressing modes available in 8051 microcontroller and discuss with examples.

10 (a) Explain the Jump, Loop and Call instructions with examples.

OR

(b) With examples discuss various logical instructions of 8051 microcontroller.

11 (a) Draw the architectural diagram of PIC 16C6x/7x microcontroller and explain.

OR

(b) Draw the pin diagram of PIC 16F8xx Flash microcontroller and explain each pin.

12 (a) With neat diagram discuss the interfacing of LCD to 89C51 microcontroller.

OR

(b) What are the various strain gauges. Draw the diagram of strain gauges and explain.

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