

Roll No.

23335

**M. Tech. 1st Semester (VLSI Design &
Embedded System)**

Examination – December, 2014

EMBEDDED SYSTEM DESIGN

Paper : MT-VLES-507

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions.

1. Discuss ESD and Co-design issues in system development process and what is Embedded system project management ? 20
2. (a) Discuss how software tools are usefull in development of an embedded system ? 10
(b) Differentiate microprocessor and microcontroller. 10
3. (a) Explain Architecture of 8051 microcontroller. 10

- (b) What are advanced instructions ? 10
4. Explain how we interface the external memory with 8051 microcontroller ? 20
5. Discuss concept and boundary scan architecture of JTAG. 20
6. (a) Write a program to generate 2 KHz square wave on pin P1.0 of port 1 of 8051 microcontroller (use interrupt). 10
- (b) Write a program to multiply the unsigned number in register R3 by the unsigned number on port 2 and put the result in external RAM locations 10 H (MSB) & 11 H (LSB). 10
7. Draw the circuit diagram and explain to interface a LCD display and how to display the data using LCD ? 20
8. Write short note on : 20
- (a) Memory organization.
- (b) PIC microcontroller.
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