BB-762

M. Tech. EXAMINATION, Dec. 2017

(Second Semester)

(B. Scheme) (Re-appear Only)

ECE(VLSI)

MTVLSI-504

ESD USING AVR MICROCONTROLLER

Time : 3 *Hours*]   [*Maximum Marks :* 75

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

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. Enlist different types of microcontrollers and explain the concept of clocking, interrupts and timers in microcontroller using an example.

15

2. Compare the following :

(i) CISC and RISC

(ii) Harvard and Princeton architectures. **15**

Unit II

3. Briefly explain the following using examples :

(i) Debugging and Interpreters

(ii) Assembly language programming style.

15

4. Discuss the role and concept of development tools/environment in embedded system design.

15

Unit III

5. What is an AVR microcontroller ? Explain its addressing modes and instruction set using examples. **15**

6. Briefly describe the following :

(i) UART and SRAM

(ii) Power-down modes of AVR.

Unit IV

7. What do you understand by ADC or DAC ? Using suitable schematics, explain the working of DC motor controller using PWM. **15**

8. Write short notes on the following :

(i) 12C protocol

(ii) Interfacing of AVR microcontroller with other devices using parallel communication. **15**