

Roll No. ....

**23342**

**M. E./M. Tech. 2nd Semester (Emb. Sys  
& VLSI Dgn) Examination – June, 2013**

**EMBEDDED SYSTEM DESIGN-I**

Paper : MT-VLES-504

*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. (a) Explain the term clocking in respect of Pic micro-controller ? 10
- (b) Explain Instruction pipelining in Pic micro-controller ? 10
2. (a) Discuss Program memory map and how program counter access program memory in Pic micro-controller. 10
- (b) Draw the architecture of Pic microcontroller also explain the reg. file structure. 10

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3. (a) Explain different types of interrupts and their significance? 10  
(b) Explain different types of timers used in a Pic microcontroller? 10
4. (a) Explain compare mode and capture mode in Pic microcontroller. 10  
(b) Explain the process of series peripheral interface in detail? 10
5. (a) Explain the architecture of ARM processor. 10  
(b) Explain the various types of reg. used in ARM processor. 10
6. (a) Explain the process of pipelining in ARM processor. 10  
(b) How memory is organised and managed in ARM processor? 10
7. (a) Write an ALP in Pic microcontroller to decrement 16-bit counter. 10  
(b) Write an ALP in Pic microcontroller to toggle the LED's every half second, use 4MHz crystal for 1 microsecond internal clock-period. 10
8. (a) Explain the Hardware interfacing at analog i/p o/p with Pic microcontroller. 10  
(b) Explain the Hardware interfacing of LED of LCD with Pic microcontroller? 10