

Code No: G6801/R13

M. Tech. I Semester Supplementary Examinations, December-2016

MICROCONTROLLERS FOR EMBEDDED SYSTEM DESIGN

(Common to VLSI&ES, ES&VLSI, VLSID&ES, ES and ES&VLSID)

Time: 3 hours

Max. Marks: 60

*Answer any FIVE Questions
All Questions Carry Equal Marks*

1. a Define Embedded system, explain with real time application. [6]
b Why do we use controllers in the embedded systems, explain in detail? [6]
2. a What is meant by ARM? Explain the ARM design philosophy. [6]
b Explain the different types of ARM processor families. [6]
3. a What is the difference between instruction set and thumb instruction set? [6]
b Explain about the Branch instructions and register usage instructions. [6]
4. a Explain about ARM programming with one example [6]
b With a suitable example, explain about the assembly code using instruction scheduling in ARM programming. [6]
5. a Explain about the cache architecture in memory management. [6]
b Explain about policies and access permissions in memory management [6]
6. a With a suitable example explain about the pipeline of ARM. [6]
b What is meant by PSR, why we are using in embedded system design? [6]
7. a With a suitable example explain about the data processing instructions. [6]
b With a suitable example explain about the integer and floating point. [6]
8. Write a short notes on [12]
 - a) context switch
 - b) register usage
 - c) flushing and caches.
