Code: 9D06102

M.Tech I Semester Regular & Supplementary Examinations January/February 2017

EMBEDDED SYSTEM CONCEPTS

(Common to DSCE, DECS, ECE, ES, VLSIES, ESVLSI & VLSIESD)

Time: 3 hours Max. Marks: 60

Answer any FIVE questions

All questions carry equal marks

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1 (a) Explain various components of embedded system hardware.
(b) Explain the classification of embedded systems with suitable examples.

2 (a) Explain about network based embedded system design with suitable diagrams.
(b) Compare RS232 and 422 communication interfaces in all technical aspects.

3 (a) Describe the concept of Round Robin Scheduling with reference to RTOS and also differentiate between Round Robin and Round Robin with interrupts.
(b) Explain the architecture of function queue scheduling and implement it using any programming language.

4 (a) Explain embedded software development tools of host and target machines.
(b) Explain the various debugging techniques used in embedded systems.

5 (a) Explain how semaphores make a function reentrant with an example code.
(b) Explain about mail boxes in an embedded system with Real time operations.

6 (a) Write an ARM processor code for compiling the arithmetic expression a*b + 5*(c – d).
(b) Explain the instruction set of SHARC processor.

7 Starting from the requirement analysis, explain the design of an embedded system covering all the phases of embedded development life cycle.

8 (a) Explain the design of a Telephone answering machine using embedded concepts.
(b) Explain the design of Set Top Box along with its Hardware and software design.

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