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Question Paper Code : 41283

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Seventh Semester

Electronics and Communication Engineering

080290056 – EMBEDDED SYSTEMS

(Common Medical Electronics Engineering)

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List some applications of embedded system.
2. List the various forms of memory used in embedded system.
3. What is the need for a cross compiler?
4. What is a software timer?
5. What is a quasi-bi-directional port?
6. What are the characteristics of PCI bus?
7. List the three methods used by RTOS to respond to a hardware sources call on interrupt.
8. What is meant by priority inversion problem?
9. List the functions of μ C/OS-II.
10. State the uses of taskSafe() and taskUnsafe().

PART B — (5 × 16 = 80 marks)

11. (a) Discuss in detail about the software architecture used in embedded system.

Or

- (b) Discuss the process of generation of executable images in embedded systems.

12. (a) Explain in detail about the allocation of memory to program segments, Blocks and memory map of a system.

Or

- (b) Explain in detail about the recognizing shared objects, recentrant functions in detail.

13. (a) Explain the architecture of PIC in detail.

Or

- (b) (i) Discuss interrupts handling in PIC in detail. (8)

- (ii) Explain addressing modes in PIC. (8)

14. (a) (i) Explain in detail about pipes and signals in RTOS. (8)

- (ii) Explain in detail about interrupt service routines in RTOS. (8)

Or

- (b) (i) Explain in detail about memory management in RTOS. (8)

- (ii) Discuss the Mailboxes and Message queues in RTOS. (8)

15. (a) Design an adaptive cursive control systems in a car using MUCOS RTOS.

Or

- (b) Design a smart card using MUCOS RTOS.