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06EC762

Seventh Semester B.E. Degree Examination, December 2010
Real Time Systems

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from Part – A and Part - B.

PART – A

- 1 a. Define real time system. Explain the different classifications of RTS with examples. (10 Marks)
b. Define the term “time constraint”. How are RTS classified based on time constraint? Explain them with appropriate equations. (10 Marks)
- 2 a. What do you mean by adaptive control? With a neat block diagram, explain any two types. (10 Marks)
b. What is a DDC? What are the advantages of DDC over analog control? Discuss PID control algorithms. (10 Marks)
- 3 a. Explain pulse interface for input and output operation, with a neat block diagram. (10 Marks)
b. Explain the ISO seven layer model for data communication. (10 Marks)
- 4 a. How do strong data typing contribute to the security of programming language? (10 Marks)
b. What are the requirements, which CUTLASS has to meet? With a neat diagram, show CUTLASS host – target configuration. (10 Marks)

PART – B

- 5 a. With a neat block diagram, the explain typical structure of RTOS. (10 Marks)
b. Explain the different priority structures, adopted in designing a real – time system.(10 Marks)
- 6 a. What is task management? List the functions of task management. With a neat diagram, discuss different tasks. (10 Marks)
b. Discuss the significance of memory management and hence explain task chaining and task overlapping. (10 Marks)
- 7 a. Explain the different phases involved in the design of a RTS. (10 Marks)
b. Explain foreground and background system with flow chart. (10 Marks)
- 8 a. With a general arrangement for a drying oven, explain its requirements. (10 Marks)
b. Write about the environmental model, with context diagram for drying owen. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines or the remaining blank pages. will be treated as malpractice.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50 will be treated as malpractice.

