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10EC/TE762

Seventh Semester B.E. Degree Examination, June/July 2018
Real Time Systems

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. Define Real Time Systems. How they are different from other regular systems? (06 Marks)
b. Give the classification of Real Time Systems and give suitable applications. (06 Marks)
c. Write the block diagram of a computer control system in an industry and explain its operation. (08 Marks)
- 2 a. Describe the computer control process in the following operations with the help of diagrams.
i) Sequential control ii) Loop control iii) Supervisory control. (15 Marks)
b. Explain the working principle of centralized computer control in the industry. (05 Marks)
- 3 a. What are parallel computers? Write the different architectures of parallel computer systems and explain their working principles. (08 Marks)
b. Explain with suitable diagrams the process related interfaces. (06 Marks)
c. Describe the Interrupt driven data transfer and DMA data transfer, working principles. (06 Marks)
- 4 a. Discuss the features that a real time language should possess in order to meet the real time applications. (09 Marks)
b. Explain, how the compilation of programs is carried out in the real time systems? (05 Marks)
c. Write the diagram of table driven application system and explain the working. (06 Marks)

PART – B

- 5 a. Write the block diagram of multitasking operating system and explain its functioning. (10 Marks)
b. Discuss the task priority structures employed in the real time systems. (10 Marks)
- 6 a. What is task management? Explain the total task management process in the real time systems, with the help of suitable diagrams. (12 Marks)
b. What is code sharing? How it is carried out in the multi tasking system. (08 Marks)
- 7 a. Write the typical planning phase and development phase diagrams of RTS design process and explain. (12 Marks)
b. Describe :
i) Fore ground and back ground system
ii) Semaphores. (08 Marks)
- 8 a. Discuss the i) Yourdon methodology ii) Ward and Mellor methods of RTS developments. (14 Marks)
b. Write note on Hatley and Pirbhai methodology of designing RTS. (06 Marks)

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