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**15EC743**

## Seventh Semester B.E. Degree Examination, July/August 2021 Real Time Systems

Time: 3 hrs.

Max. Marks: 80

**Note: Answer any FIVE full questions.**

- 1 a. Define : (i) Real time system (ii) Clock based system  
(iii) Event based system (iv) Interactive system. (08 Marks)  
b. Explain the different types of programs in system design. (08 Marks)
- 2 a. With a neat diagram, explain the sequential control Real Time System. (10 Marks)  
b. Write a note on hierarchical system. (06 Marks)
- 3 a. What is necessity of using specialized processors in RTS? Explain the different forms of parallel computer architecture. (10 Marks)  
b. Explain with diagram of Analog input interface. (06 Marks)
- 4 a. Explain digital interface for input and output operation. (10 Marks)  
b. With a neat diagram, explain interrupt masking. (06 Marks)
- 5 a. List and explain in brief, the major requirement for a real time language. (12 Marks)  
b. Explain the syntax layout and readability. (04 Marks)
- 6 a. With a neat block diagram, explain the table driven approach to device special application software. (10 Marks)  
b. Discuss the co-routines of RTS. (06 Marks)
- 7 a. List the basic functions of the task management. Explain the task states with the help of task state diagram. (10 Marks)  
b. Explain the three levels of priority structures. (06 Marks)
- 8 a. Explain the issue of synchronous and communication in intex task communication. (10 Marks)  
b. Describe in brief mutual exclusion. (06 Marks)
- 9 a. With a neat diagram, explain the development phase of RTS. (10 Marks)  
b. Explain the basic software modules. (06 Marks)
- 10 a. Explain the YOURDON METHODOLOGY of RTS development. (08 Marks)  
b. With a neat diagram, explain Ward and Meller method. (08 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.