



# CBCS SCHEME

18MT733

Seventh Semester B.E. Degree Examination, June/July 2023

## Real Time Systems

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Explain the classification of programming in Real Time Systems. (10 Marks)  
b. Explain sequence control using chemical reactor vessel as an example. (10 Marks)

OR

- 2 a. Classify Real Time Systems time based on time constraints with an example for each and appropriate equations. (10 Marks)  
b. Explain distributed system with a neat diagram and mention the major advantages of this approach. (10 Marks)

### Module-2

- 3 a. With a neat sketch, explain general purpose digital computer. (10 Marks)  
b. With a neat sketches, explain DDC. (10 Marks)

OR

- 4 a. Explain the different forms of parallel computer architecture. (10 Marks)  
b. Explain digital input and output interface. (10 Marks)

### Module-3

- 5 a. Explain the following features of real time programming languages:  
i) Security ii) Readability iii) Flexibility iv) Simplicity v) Portability. (10 Marks)  
b. Explain briefly declaration and initialization of variables and constants. (10 Marks)

OR

- 6 a. Explain any three data transfer techniques using interrupts. (10 Marks)  
b. Write short notes on: i) Control structures ii) Exception handling. (10 Marks)

### Module-4

- 7 a. What is task management? Discuss different task with the help of state diagram. (10 Marks)  
b. With neat diagram, explain memory management. (10 Marks)

OR

- 8 a. Explain the general structure of Input Output Sub System (IOSS). (10 Marks)  
b. Explain cyclic and preemptive scheduling strategies. (10 Marks)

### Module-5

- 9 a. With a neat diagram, explain the development phase in RTS. (10 Marks)  
b. Explain software design of RTS using software module. (10 Marks)

OR

- 10 a. With a neat diagram, explain the planning phase in RTS. (10 Marks)  
b. Explain Ward and Mellor method used in the development of RTS. (10 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.