

# CBCS SCHEME

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15MT743

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022

## Real Time Systems

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Define Real Time System. List and explain its classification. (08 Marks)  
b. With a neat sketch, explain direct digital control. Also mention advantages claimed for DDC over analog control. (08 Marks)

OR

- 2 a. Give the classification of Real Time System depending on the time constraint. (08 Marks)  
b. With the neat sketch, explain the operation of supervisory control. (08 Marks)

### Module-2

- 3 a. With the neat sketch, explain the working of single chip microcontroller. (08 Marks)  
b. Discuss different LAN topologies with neat sketch. (08 Marks)

OR

- 4 With a neat sketch, explain analog input system and analog output system. (16 Marks)

### Module-3

- 5 a. List and explain the features of a real time language which are important for real time applications. (10 Marks)  
b. Explain about declaration and initialization of variables and constants. (06 Marks)

OR

- 6 a. Discuss standard structured program constructs with neat sketch. (10 Marks)  
b. Explain different data types of a real time language. (06 Marks)

### Module-4

- 7 a. With a neat sketch, explain general structure of a simple operating system. (08 Marks)  
b. Discuss different scheduling strategies. (08 Marks)

OR

- 8 a. List and explain task states with a typical task state diagram. (08 Marks)  
b. Illustrate code sharing problem with an example. Also list two methods used to overcome code sharing. (08 Marks)

### Module-5

- 9 a. Write short notes on preliminary design. (08 Marks)  
b. With a neat sketch discuss about Foreground/Background System. (08 Marks)

OR

- 10 a. With a neat sketch discuss single program approach. (08 Marks)  
b. Outline Ward and Mellor method with neat sketch. (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.