

CBCS SCHEME



USN

--	--	--	--	--	--	--	--	--	--

15EC743

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. Describe the elements of a computer control system. (10 Marks)
b. Discuss the different types of programs in system design. (06 Marks)

OR

- 2 a. With an example, explain sequence control in field application. (10 Marks)
b. Explain supervisory control, with an example. (06 Marks)

Module-2

- 3 a. Explain digital signal interface, with a neat diagram. (08 Marks)
b. Write an explanatory note on pulse input and output interfaces. (08 Marks)

OR

- 4 a. With a neat diagram, explain the analog input system interface. (10 Marks)
b. Explain the two different data transfer techniques of real time systems. (06 Marks)

Module-3

- 5 a. Define the following with respect to real time programming languages :
i) Scope and visibility ii) Global and local variable iii) Modularity
iv) Data types v) Derived types vi) Exception handling. (12 Marks)
b. Explain the following programming features : i) Security ii) Flexibility. (04 Marks)

OR

- 6 a. Discuss the requirements that a user should look for, in a programming language. (08 Marks)
b. Explain the approaches of application oriented software. (08 Marks)

Module-4

- 7 a. Explain typical structure of a Real Time Operating System (RTOS). (08 Marks)
b. What are the basic functions of the task management module? (08 Marks)

OR

- 8 a. What is code sharing? How do you overcome code sharing problem? Explain. (10 Marks)
b. Write a note on detailed arrangement of IOSS. (06 Marks)

Module-5

- 9 a. Write a note on :
i) Yourdon methodology
ii) Drying oven-context diagram. (12 Marks)
b. List various real time system development methodologies. (04 Marks)

OR

- 10 Write explanatory notes on the following :
a. Hatley and Pirbhai method
b. Ward and Mellor method. (16 Marks)

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.