



CBCS SCHEME

17MT743

Seventh Semester B.E. Degree Examination, Jan./Feb. 2021 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 RTS based on synchronization between external process and internal tasks of the computer. (06 Marks)
- b. Compare hard and soft Real Time Systems. (04 Marks)
- c. Explain the classification of programming in Real Time Systems. (10 Marks)

OR

- 2 a. With a neat diagram and taking a suitable example explain supervisory control. (10 Marks)
- b. Explain briefly sequence control with neat diagram. (06 Marks)
- c. Compare batch and continuous processing with examples. (04 Marks)

Module-2

- 3 a. Explain analog interface for input and output operation. (10 Marks)
- b. Explain digital input and output interface. (10 Marks)

OR

- 4 a. Explain the different forms of parallel computer architectures. (10 Marks)
- b. Explain asynchronous and synchronous transmission technique. (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. What are the datatypes? Explain each on briefly. (10 Marks)
- b. Write short notes on : i) Control structures ii) Exception handling. (10 Marks)

Module-4

- 7 a. Explain cyclic and preemptive scheduling strategies. (10 Marks)
- b. Draw and explain task state diagram. (10 Marks)

OR

- 8 a. With neat diagram, explain memory management. (10 Marks)
- b. Explain the general structure of Input Output SubSystem (IOSS). (10 Marks)

Module-5

- 9 a. With neat flow chart describe single program approach. (10 Marks)
- b. Explain software design of RTS using software module. (10 Marks)

OR

- 10 a. Summarize various methodologies used for designing Real Time Systems. (04 Marks)
- b. Write short note on Yourdon methodology. (06 Marks)
- c. Explain the outline of abstract modeling approach of Ward and Mellor. (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.