CBCS SCHEME

15MT743

USN | | | | | | | | | | |

Seventh Semester B.E. Degree Examination, Jan./Feb.2021
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. Explain classification of Real Time System.   **(08 Marks)**
    b. Describe the classification of programs.   **(08 Marks)**

OR

2   a. Explain the concept of a simple chemical reactor vessel (sequence control).   **(08 Marks)**
    b. With the block diagram, explain direct digital control and mention its advantages. **(06 Marks)**
    c. Write a brief note on PID control.   **(02 Marks)**

Module-2

3   a. Explain the general purpose digital computer with the help of block diagram. **(08 Marks)**
    b. Describe the specialized processor with necessary diagram.   **(08 Marks)**

OR

4   a. Describe the Analog input system and output system with the neat diagram.   **(08 Marks)**
    b. Explain the following data transfer techniques : (i) Polling (ii) Interrupts. **(08 Marks)**

Module-3

5   a. Write a brief note on following:
        (i)   Security (ii) Portability (iii) Readability   (iv) Efficiency   **(08 Marks)**
    b. Explain data types in language for Real Time application.   **(08 Marks)**

OR

6   Explain the following: (i) Exception handling.
                            (ii) Interrupt and device handing.   **(16 Marks)**

Module-4

7   a. With the neat diagram, explain Real Time multi-tasking and multi user operating system.
                                                                                     (08 Marks)
    b. Describe all 3 priority levels in priority structure with the flow chart.   **(08 Marks)**

OR

8   a. Explain the following with respect to code sharing:
        (i)   Serially Reversible code.   (ii)   Re-entrant code.   **(12 Marks)**
    b. Describe simple monitor and general monitor.   **(04 Marks)**

Module-5

9   a. With the help of diagram, describe development phase.   **(08 Marks)**
    b. Describe the following preliminary design concepts :
        (i)   Hardware design.   (ii)   Software design.   **(08 Marks)**

OR

10 Write a short note on Hartley Pirabhai and Yourdon methodologies.   **(16 Marks)**

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