CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐

17MT743

Seventh Semester B.E. Degree Examination, Jan./Feb. 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. What is Real Time System? Explain the classification of real time system with examples. **(10 Marks)**
   b. Explain the classification of programs in Real Time Systems. **(10 Marks)**

OR

2 a. Explain with neat diagram distributed systems. Outline its advantages. **(10 Marks)**
   b. Explain Human – Computer interface with relevant details. **(05 Marks)**
   c. Explain the benefits of computer control systems. **(05 Marks)**

Module-2

3 a. Explain General purpose computer with relevant details. **(10 Marks)**
   b. Explain the different forms of parallel computer architectures. **(10 Marks)**

OR

4 a. Explain Analog Interface with relevant details. **(10 Marks)**
   b. Explain Digital Input and Output Interface with relevant details. **(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. Discuss briefly on modularity and variables and explain compilation of modular program with relevant details. **(10 Marks)**
   b. Write short notes on :   i) Data types 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 a 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 foreground/Back ground systems with a neat diagram and relevant details. **(10 Marks)**

OR

10 a. Summarize various methodologies used for designing real time systems. **(04 Marks)**
   b. Write short notes on Yourdon methodology. **(06 Marks)**
   c. Explain Ward and Mellor method with relevant details. **(10 Marks)**

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