ONE TIME EXIT SCHEME

USN ☐☐☐☐☐☐☐☐☐☐   10EC/TE762

Seventh Semester B.E. Degree Examination, April 2018
Real Time Systems

Time: 3 hrs.   Max. Marks:100

Note: *Answer FIVE full questions, selecting*
atleast TWO questions from each part.

PART – A

1   a. Define real time system. Explain the different classifications of real time system with examples. **(08 Marks)**
    b. Describe the elements of a compute control system. **(08 Marks)**
    c. Write any 4 responsibilities of a control engineer. **(04 Marks)**

2   a. With an example, explain sequence control in field application. **(10 Marks)**
    b. Explain distributed system with a neat diagram and mention the features of HCI. **(10 Marks)**

3   a. Describe hardware vectored interrupts. **(10 Marks)**
    b. Explain process related interface with suitable examples. **(10 Marks)**

4   a. What is cutlass? What are the major requirements and general features of cutlass? **(10 Marks)**
    b. Define the following with respect to real time programming languages :
       i) Datatypes ii) Exception handling iii) Modularity iv) scope and visibility v) Global and local variables. **(10 Marks)**

PART – B

5   a. With a suitable diagram, explain multiuser operating system and multi tasking operating system. **(10 Marks)**
    b. What is code sharing? Discuss the two methods of code sharing in detail. **(10 Marks)**

6   a. Discuss the significance of memory management and hence explain task chaining and swapping and task over laying. **(10 Marks)**
    b. Explain mutual exclusion using binary semaphore and monitor. **(10 Marks)**

7   a. Explain different phases involved in the design of RTS. **(10 Marks)**
    b. Explain foreground and background systems, with flow chart. **(10 Marks)**

8   a. Explain with relevant diagram the Ward and Mellor method. **(08 Marks)**
    b. Write short notes on any two :
       i) Process specification and control specification
       ii) Software modeling
       iii) Yourdon methodology. **(12 Marks)**

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