Code No: RR411203 | **RR** | **Set No. 2**

IV B.Tech I Semester Examinations,November 2010
REAL TIME SYSTEMS
Common to Information Technology, Electronics And Computer
Engineering, Computer Science And Systems Engineering

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
⋆ ⋆ ⋆ ⋆ ⋆

1. (a) It is known that the periods of a system of independent, preemptable periodic tasks are 2,3,4,5,7,8,9,11,14,16,22,25,27,28,32,33,64,81,125 and 500. Moreover, the total utilization of the system is equal to 0.725. Is the system schedulable rate-monotonically, if the relative deadline of every task is equal to its period? Explain.

   (b) Explain the advantages of priority scheduling strategies used in Real Time Systems.   [10+6]

2. (a) What are the preliminary design steps used in Real Time Operation System design? Explain.

   (b) Differentiate between

      i. Multiprocessing and Multitasking
      ii. Hard and Soft Real Time Systems.   [8+8]

3. Explain in detail, the following concepts

   (a) Blocks

   (b) Procedures and Functions

   (c) Packages   [4+5+7]

4. (a) Explain Scheduling problem for real time databases.

   (b) Describe the issues related to real time applications of database systems.[8+8]

5. (a) Explain serialization consistency without alteration of serialization order.

   (b) Discuss serialization consistency with alteration of serialization order.   [8+8]

6. Explain how the following signals are interfaced to a Real Time System :

   (a) Digital

   (b) Analog

   (c) Pulses and pulse rates

   (d) Telemetry signals.   [4+4+4+4]

7. (a) What is exponentially - Distributed Fault Latency? Give a sequence of events resulting in triad failure.

1

  (b) Give an introduction of transient faults.   [10+6]

8. (a) Define a real time system.

  (b) Give examples of real time system.

  (c) Classify the real time systems.   [4+4+8]

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Code No: RR411203 | **RR** | **Set No. 4**

IV B.Tech I Semester Examinations,November 2010
REAL TIME SYSTEMS
Common to Information Technology, Electronics And Computer
Engineering, Computer Science And Systems Engineering
Time: 3 hours   Max Marks: 80
Answer any FIVE Questions
All Questions carry equal marks
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1. Explain in detail, the following concepts

   (a) Blocks

   (b) Procedures and Functions

   (c) Packages   [4+5+7]

2. (a) Explain Scheduling problem for real time databases.

   (b) Describe the issues related to real time applications of database systems.[8+8]

3. (a) What is exponentially - Distributed Fault Latency? Give a sequence of events resulting in triad failure.

   (b) Give an introduction of transient faults.   [10+6]

4. (a) Define a real time system.

   (b) Give examples of real time system.

   (c) Classify the real time systems.   [4+4+8]

5. Explain how the following signals are interfaced to a Real Time System :

   (a) Digital

   (b) Analog

   (c) Pulses and pulse rates

   (d) Telemetry signals.   [4+4+4+4]

6. (a) Explain serialization consistency without alteration of serialization order.

   (b) Discuss serialization consistency with alteration of serialization order.   [8+8]

7. (a) What are the preliminary design steps used in Real Time Operation System design? Explain.

   (b) Differentiate between

       i. Multiprocessing and Multitasking

       ii. Hard and Soft Real Time Systems.   [8+8]

8. (a) It is known that the periods of a system of independent, preemptable periodic tasks are 2,3,4,5,7,8,9,11,14,16,22,25,27,28,32,33,64,81,125 and 500. Moreover, the total utilization of the system is equal to 0.725. Is the system schedulable rate-monotonically, if the relative deadline of every task is equal to its period? Explain.

   (b) Explain the advantages of priority scheduling strategies used in Real Time Systems.   [10+6]

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Code No: RR411203 | **RR** | **Set No. 1**

IV B.Tech I Semester Examinations,November 2010
REAL TIME SYSTEMS
Common to Information Technology, Electronics And Computer
Engineering, Computer Science And Systems Engineering

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
⋆ ⋆ ⋆ ⋆ ⋆

1. Explain in detail, the following concepts

   (a) Blocks

   (b) Procedures and Functions

   (c) Packages   [4+5+7]

2. (a) Explain serialization consistency without alteration of serialization order.

   (b) Discuss serialization consistency with alteration of serialization order.   [8+8]

3. (a) Define a real time system.

   (b) Give examples of real time system.

   (c) Classify the real time systems.   [4+4+8]

4. (a) What are the preliminary design steps used in Real Time Operation System
       design? Explain.

   (b) Differentiate between
       i. Multiprocessing and Multitasking
       ii. Hard and Soft Real Time Systems.   [8+8]

5. (a) Explain Scheduling problem for real time databases.

   (b) Describe the issues related to real time applications of database systems.[8+8]

6. Explain how the following signals are interfaced to a Real Time System :

   (a) Digital

   (b) Analog

   (c) Pulses and pulse rates

   (d) Telemetry signals.   [4+4+4+4]

7. (a) What is exponentially - Distributed Fault Latency? Give a sequence of events
       resulting in triad failure.

   (b) Give an introduction of transient faults.   [10+6]

8. (a) It is known that the periods of a system of independent, preemptable periodic tasks are 2,3,4,5,7,8,9,11,14,16,22,25,27,28,32,33,64,81,125 and 500. Moreover, the total utilization of the system is equal to 0.725. Is the system schedulable rate-monotonically, if the relative deadline of every task is equal to its period? Explain.

   (b) Explain the advantages of priority scheduling strategies used in Real Time Systems. [10+6]

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FIRSTRANKER

Code No: RR411203 | **RR** | **Set No. 3**

IV B.Tech I Semester Examinations,November 2010
REAL TIME SYSTEMS
Common to Information Technology, Electronics And Computer
Engineering, Computer Science And Systems Engineering

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain serialization consistency without alteration of serialization order.
   (b) Discuss serialization consistency with alteration of serialization order.   [8+8]

2. (a) Explain Scheduling problem for real time databases.
   (b) Describe the issues related to real time applications of database systems.[8+8]

3. Explain how the following signals are interfaced to a Real Time System :
   (a) Digital
   (b) Analog
   (c) Pulses and pulse rates
   (d) Telemetry signals.   [4+4+4+4]

4. (a) It is known that the periods of a system of independent, preemptable periodic
       tasks are 2,3,4,5,7,8,9,11,14,16,22,25,27,28,32,33,64,81,125 and 500. Moreover,
       the total utilization of the system is equal to 0.725. Is the system schedulable
       rate-monotonically, if the relative deadline of every task is equal to its period?
       Explain.
   (b) Explain the advantages of priority scheduling strategies used in Real Time
       Systems.   [10+6]

5. (a) What are the preliminary design steps used in Real Time Operation System
       design? Explain.
   (b) Differentiate between
       i. Multiprocessing and Multitasking
       ii. Hard and Soft Real Time Systems.   [8+8]

6. (a) Define a real time system.
   (b) Give examples of real time system.
   (c) Classify the real time systems.   [4+4+8]

7. (a) What is exponentially - Distributed Fault Latency? Give a sequence of events
       resulting in triad failure.
   (b) Give an introduction of transient faults.   [10+6]

8. Explain in detail, the following concepts

7

(a) Blocks

(b) Procedures and Functions

(c) Packages [4+5+7]

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FIRSTRANKER