



Total Printed Pages : **2**

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**M. Tech. Computer Science & Engg. (Sem. I)
Main/ Back Examination,
January – 2008
Critical System Design**

Time : 3 Hours]

[Total Marks : 80

[Min. Passing Marks : 27

Attempt any five questions.

Marks of questions are indicated against each question.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. Nil

2. Nil

1 What are performance critical systems ? Why performance critical systems are difficult to design and build ? **rtuonline.com**
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2 Explain various access control techniques in detail. What are different assumptions on the uses of resources ?
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1E-7905]

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3 (a) What pit-fall to successful performance critical system design are most common and how can we address them ?

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(b) What make an operating system a good Real-Time-Operating-System ?

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4 Explain waited round-robin approach for time critical system design. How this approach differs from clock drive approach and priority driven approach ?

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5 Briefly explain at least two way in which confidential incident reporting systems can be used to support the development of safety critical computer systems.

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6 What are different scheduling flexible computations with temporal distance constraints ? Explain in detail.

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7 (a) Why does reason's distinction between latent and active failure have important implications for the development of safety critical software ?

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(b) What do you understand by clock synchronization ?

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8 Give the classification of time-critical systems. Explain the reference model for time-critical systems.

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