

7E4098

Roll No. : \_\_\_\_\_

Total Printed Pages : **3**

**7E4098**

B. Tech. (Sem. VII) (Re-Back) Examination, December-2012

Information Tech.

7IT6.2 Real Time System (Common With 7CS6.3)

Time : 3 Hours]

[Maximum Marks : **80**

[Min. Passing Marks : **24**

*Attempt any five questions. Selecting one question from each unit.  
All questions carry equal marks. Schematic diagrams must be  
shown wherever necessary. Any data you feel missing suitably be  
assumed and stated clearly. Units & quantities used/calculated  
must be stated clearly.*

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

1. NIL

2. NIL

### UNIT - I

- 1 (a) Explain digital control with help of diagram. 8  
(b) Describe deadbeat control and Kalman filter. 4+4

OR

- 1 (a) What are jobs and processors. Explain release time, deadlines  
and timing constraints. 8  
(b) Describe hard and soft timing constraints. Also given  
differences between them. 4+4

### UNIT - II

- 2 (a) Explain weighted round robin approach to Real-Time  
scheduling. 8  
(b) Describe priority - driven approach to real time scheduling. 8

OR

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DEPARTMENT OF CHEMISTRY  
5800 S. UNIVERSITY AVENUE  
CHICAGO, ILLINOIS 60637

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- 2 (a) Explain static and time driven scheduler. 8
- (b) Describe pros and cons of clock-driven scheduling. 8

### UNIT - III

- 3 (a) Describe resource conflict and blocking with respect to multiple jobs. 8
- (b) What are effects of resource contention and resource access control. 8

### OR

- 3 (a) What are the different properties of priority - inheritance protocol. 8
- (b) Give difference between priority inheritance and priority ceiling protocols. 8

### UNIT - IV

- 4 (a) Explain Identical and heterogeneous processors, also give differences between them. 4+4
- (b) Describe local and remote resources with help of examples and give differences between them. 4+4

### OR

- 4 Explain following regarding end to end jobs and tasks :
- (a) Job shops and flow shops 4
- (b) End-to-end timing constraints. 4
- (c) Periodic end-to-end tasks. 4
- (d) Parallelism. 4



## UNIT - V

- 5 (a) What is real - time communication. Describe role of products and network band width in real time communication. 4+4
- (b) Describe real time traffic models. Also explain different types of messages in this regard. 8

## OR

- 5 Explain following regarding performance objectives and constraints in real time communication :
- (a) Miss, Loss and invalid rated. 8
- (b) Delay fitter, buffer requirement and throughput. 8

