

ESTC

College of Engineering, Pune
END SEMESTER EXAM
Year (B.Tech, 2013)
(ET 443)- (Embedded Software and RTOS)

Day & Date-

Max. Marks-50

Timing-

Duration -3 Hrs

Instructions:

1. Figures to the right indicate full marks.
 2. All questions are compulsory.
 3. Draw neat figures wherever needed.
 4. Assume Suitable data wherever necessary.
 5. Strictly follow the sequence of questions for the answers.
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- Q.1 A What is scheduler? Explain what are the types of priority based Kernals. (5)
- B What is semaphore? What is relationship between Tasks, ISRS and Semaphore in μ cos-II? What are μ cos-II semaphore services? Describe OSSemAccept () function. (5)
- C Describe relationship between EventFlag, EventFlag Nodes and TCB's. State elements of EventFlag group node data structure (5)
- Q.2 A Explain how priority inversion problem is overcome by using Mutex. Explain how to create Mutex. What should be the initial value of Mutex. (5)
- B Explain how we can use MailBox as binary semaphore and how we can use Mailbox instead of OSTimeDelay() (5)
- Q.3 A What is clock tick? How to set and Query on "System Time"? (3)
- B What is Deadlock? How to avoid deadlock? (3)
- C Describe different fields of ECB. (4)
- Q.4 A Describe data structure needed to implement a message queue? What are the pointers used in a message queue as a circular buffer. (5)
- B What are the memory management services in μ cos-II state it. How to get a memory block from one of the created memory partitions. (5)
- Q.5 A What are the requirements a processor must satisfy to run μ cos-II (3)
- B How OS_Event0 () works. (2)

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