



Oasis Technologies Pvt. Ltd.

RTOS - Course Schedule

Total Day's: 18 (39T+33P)

Session 1: Real-Time Systems Concepts

Details:

What is Real-Time operating system, type's of real time operating system, foreground/background systems, critical sections, Resources, multitasking, context switching, scheduling, reentrancy, task priorities, mutual exclusion, semaphores, Inter task communications, interrupts.

Duration: 3 Day, 9T + 3P

Assignments: 1)Write a program to create a task and display your name on Hyper Terminal.

1. 2) Use More Tasks .

Session 2: Kernel Structure

Details:

Tasks, task states, task control
Blocks, how μ C/OS -II implements a ready list, task scheduling, the idle task, how to determine CPU usage, how μ C/OS-II handles interrupts, how to initialize and start μ C/OS-II

Duration : 3 Day , 6T +6P

Assignments:1) Write a program for different tasks using different priorities.

Session 3: Task Management

Details:

How to create a task, delete a task, check the size of a task's stack, change a task's priority, suspend and resume a task, and get information about a task.

Duration : 3 Day , 6T +6P

Assignments:

1. WAP a program of two task and blink LED's EVEN & ODD.

Session 4: Time Management

Details: How to suspend a task's execution until some user specified time expires, how such a task can be resumed and how to get and set the current value of a 32-bit tick counter.

Duration : 3 Day , 6T +6P

Assignments: 1)WAP to blink LED's by using Timer interrupt.



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Session 5: Inter task Communication and Synchronization

Details: How a tasks and ISRs (Interrupt Service Routines) communicate with one another and share resources. How semaphores, message mailboxes and message queues are Implemented.

Duration : 3 Day , 6T +6P

Assignments: 1) WAP on semaphores
2) WAP on message Queue
3) WAP on mailbox

Session 6: Memory Management

Details: Dynamic memory allocation feature using fixed-sized memory blocks

Duration: 3 Day, 6T +6P

Assignments: Revision