

# NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Computer Science and Engineering - NOC:Real-Time Systems

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Co-ordinating Institute - IIT - Kharagpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - Introduction
- Lecture 2 - Introduction
- Lecture 3 - Characteristics of a real-time embedded system
- Lecture 4 - Characteristics of a real-time embedded system
- Lecture 5 - Types of real-time tasks
- Lecture 6 - Events in a Real-Time System
- Lecture 7 - Types of time constraints
- Lecture 8 - Basics of Real-Time Task scheduling
- Lecture 9 - Clock-driven schedulers
- Lecture 10 - Basics of Cyclic schedulers
- Lecture 11 - Cyclic Scheduler
- Lecture 12 - Frame size constraints
- Lecture 13 - Frame size selection: Examples
- Lecture 14 - Event-driven scheduling
- Lecture 15 - EDF scheduler
- Lecture 16 - Variants of EDF and Rate Monotonic Scheduling
- Lecture 17 - Rate Monotonic Schedulability Analysis
- Lecture 18 - Rate Monotonic Schedulability Analysis
- Lecture 19 - Rate Monotonic Scheduling: Miscellaneous issues
- Lecture 20 - RMS Generalizations
- Lecture 21 - RMS Generalizations
- Lecture 22 - Handling aperiodic and sporadic tasks in rate monotonic scheduling
- Lecture 23 - Handling aperiodic and sporadic tasks in rate monotonic scheduling
- Lecture 24 - Coping up with Insufficient number of priorities
- Lecture 25 - Handling task jitter and precedence ordering
- Lecture 26 - Resource Sharing Among Real-Time Tasks
- Lecture 27 - Basic priority inheritance protocol (PIP)
- Lecture 28 - Highest Locker Protocol (HLP)
- Lecture 29 - Priority Ceiling Protocol (PCP)

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- Lecture 30 - Working of Priority Ceiling Protocol
- Lecture 31 - Analysis of Priority Ceiling Protocol
- Lecture 32 - Introduction to Multiprocessor and Distributed Systems
- Lecture 33 - Static Allocation of Tasks
- Lecture 34 - Dynamic Allocation of Tasks
- Lecture 35 - Centralized Clock Synchronization in Distributed RT Systems
- Lecture 36 - Distributed Clock Synchronization in R-T Systems
- Lecture 37 - A Few Basics in Real-Time Operating Systems
- Lecture 38 - Time Services
- Lecture 39 - Unix as a Real-Time Operating System
- Lecture 40 - Unix as a Real-Time Operating System (Continued...)
- Lecture 41 - Windows as RTOS
- Lecture 42 - POSIX
- Lecture 43 - Unix-Based Real-Time Operating Systems
- Lecture 44 - A survey of some contemporary Real-Time Operating Systems
- Lecture 45 - A survey of some contemporary Real-Time Operating Systems (Continued...)
- Lecture 46 - Benchmarking Real-Time Systems
- Lecture 47 - Introduction to Real-Time Communication
- Lecture 48 - Basics of Real-Time Communication
- Lecture 49 - Basics of Networking
- Lecture 50 - Basics of Internet
- Lecture 51 - Real-Time Communication in a LAN
- Lecture 52 - Bounded Access Protocols for LANs
- Lecture 53 - Performance Comparison and QoS Framework
- Lecture 54 - Routing and Resource Reservation
- Lecture 55 - Rate Control
- Lecture 56 - QoS Models and Soft Real-Time Communication in a LAN
- Lecture 57 - Review of Basic Database Concepts
- Lecture 58 - Applications and Issues of Real-Time Database
- Lecture 59 - Characteristics of Temporal Data
- Lecture 60 - Locking-Based Concurrency Control In Real-Time Databases
- Lecture 61 - Concurrency Control In Real-Time Databases and Commercial RT Databases