

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

NPTEL Video Course - Computer Science and Engineering - High Performance Computer Architecture

Subject Co-ordinator - Prof. Ajit Pal

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction & Course Outline  
Lecture 2 - Performance  
Lecture 3 - Instruction Set Architecture  
Lecture 4 - MIPS ISA and Processor  
Lecture 5 - MIPS ISA and Processor (Continued...)  
Lecture 6 - Pipelining - Introduction  
Lecture 7 - Instruction Pipelining  
Lecture 8 - Pipeline Hazards  
Lecture 9 - Data Hazards  
Lecture 10 - Software Pipelining  
Lecture 11 - In Quest of Higher ILP  
Lecture 12 - In Quest of Higher ILP (Continued...)  
Lecture 13 - Dynamic Instruction Scheduling  
Lecture 14 - Dynamic Instruction Scheduling (Continued...)  
Lecture 15 - Control Hazards  
Lecture 16 - Branch Prediction  
Lecture 17 - Branch Prediction (Continued...)  
Lecture 18 - Dynamic Instruction Scheduling with Branch Prediction  
Lecture 19 - Hardware-based Speculation  
Lecture 20 - Tutorial - I  
Lecture 21 - Hierarchical Memory Organization  
Lecture 22 - Hierarchical Memory Organization (Continued...1)  
Lecture 23 - Hierarchical Memory Organization (Continued...2)  
Lecture 24 - Hierarchical Memory Organization (Continued...3)  
Lecture 25 - Cache Optimization Techniques (Continued...1)  
Lecture 26 - Cache Optimization Techniques (Continued...2)  
Lecture 27 - Main Memory Organization  
Lecture 28 - Main Memory Optimizations  
Lecture 29 - Virtual Memory

---

Get Digi-MAT (Digital Media Access Terminal) For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

[www.digimat.in](http://www.digimat.in)

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

---

- Lecture 30 - Virtual Memory (Continued...)
- Lecture 31 - Virtual Machines
- Lecture 32 - Storage Technology
- Lecture 33 - Storage Technology (Continued...)
- Lecture 34 - Case Studies
- Lecture 35 - Case Studies (Continued...1)
- Lecture 36 - Case Studies (Continued...2)
- Lecture 37 - Multithreading & Multiprocessing
- Lecture 38 - Simultaneous Multithreading
- Lecture 39 - Symmetric Multiprocessors
- Lecture 40 - Distributed Memory Multiprocessors
- Lecture 41 - Cluster, Grid and Cloud Computing