

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

NPTEL Video Course - Computer Science and Engineering - NOC:Computer Architecture

Subject Co-ordinator - Prof.Madhu Mutyam

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Computer Architecture  
Lecture 2 - Quantitative Principles of Computer Design  
Lecture 3 - Instruction Set Principles-Part 1  
Lecture 4 - Instruction Set Principles-Part 2  
Lecture 5 - Instruction Set Principles-Part 3  
Lecture 6 - Cache Memory Hierarchy - Part 1  
Lecture 7 - Cache Memory Hierarchy - Part 2  
Lecture 8 - Cache Memory Hierarchy - Part 3  
Lecture 9 - Cache Memory Hierarchy - Part 4  
Lecture 10 - Main Memory Design - Part 1  
Lecture 11 - Main Memory Design - Part 2  
Lecture 12 - Main Memory Design - Part 3  
Lecture 13 - Fundamentals of Pipelining - Part 1  
Lecture 14 - Fundamentals of Pipelining - Part 2  
Lecture 15 - Fundamentals of Pipelining - Part 3  
Lecture 16 - Fundamentals of Pipelining - Part 4  
Lecture 17 - Fundamentals of Pipelining - Part 5  
Lecture 18 - Scalar to Superscalar pipeline  
Lecture 19 - Instruction Dependencies  
Lecture 20 - Compiler optimizations for Exposing ILP  
Lecture 21 - Advanced Branch Prediction Techniques - Part 1  
Lecture 22 - Advanced Branch Prediction Techniques - Part 2  
Lecture 23 - Superscalar Organization  
Lecture 24 - Register Renaming  
Lecture 25 - Tomasulo Algorithm  
Lecture 26 - Dynamic Execution Core  
Lecture 27 - Multi threading  
Lecture 28 - Multicore Processor Architecture  
Lecture 29 - Cache Coherence

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- Lecture 30 - Cache Coherence Protocol Design
- Lecture 31 - Synchronization
- Lecture 32 - Memory Consistency - Part 1
- Lecture 33 - Memory Consistency - Part 2