

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

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

Subject Co-ordinator - Prof. V. Kamakoti

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction High Speed Circuit - Design Recursive Doubling  
Lecture 2 - High Speed Circuit Design - Fast Adder Circuits  
Lecture 3 - Lab 1  
Lecture 4 - Fast Adder Circuits (Continued...)  
Lecture 5 - Fast Multiplier Circuit  
Lecture 6 - Fast Multiplier Circuit (Continued...)  
Lecture 7 - Programming using X86 ISA - Addressing Modes  
Lecture 8 - Programming using X86 ISA - Addressing Modes  
Lecture 9 - Floating point - Precision and Accuracy  
Lecture 10 - Floating Point - Addition, Subtraction and Multiplication  
Lecture 11 - Instruction Set Architecture  
Lecture 12 - Instruction Set Architecture (Continued...)  
Lecture 13 - Lab 2  
Lecture 14 - Lab 2  
Lecture 15 - Lab 2  
Lecture 16 - Orthogonal ISA, C Constructs Mapping, Addressing Modes  
Lecture 17 - Atomic and Predicated Instructions  
Lecture 18 - Atomic and Predicated Instructions (Continued...)  
Lecture 19 - General Purpose Registers  
Lecture 20 - Expanding opcodes  
Lecture 21 - Introduction to Pipelining  
Lecture 22 - Pipelining  
Lecture 23 - Data Hazards  
Lecture 24 - Lab 2  
Lecture 25 - Dynamic Instruction Scheduling  
Lecture 26 - Dynamic Instruction Scheduling (Continued...)  
Lecture 27 - Control Hazard, Branch Prediction  
Lecture 28 - Process Management  
Lecture 29 - Branch prediction

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- Lecture 30 - Global Branch Prediction
- Lecture 31 - Structural Hazard, Architectural Enhancements
- Lecture 32 - Lab 3
- Lecture 33 - Locality of Reference, Demand paging
- Lecture 34 - Page Replacement Algorithm
- Lecture 35 - Multilevel Paging, Translational Lookaside Buffer
- Lecture 36 - Multilevel Paging
- Lecture 37 - Multilevel Paging - Part 1
- Lecture 38 - Page Frame Allocation, Beledy's Anomaly
- Lecture 39 - Paging, Cache
- Lecture 40 - Cache
- Lecture 41 - Cache Organisation
- Lecture 42 - Cache - Cache Coherency, Dual Ported Cache
- Lecture 43 - Multilevel Caching, Multitasking
- Lecture 44 - Cache, Degree of Multiprogramming
- Lecture 45 - Shared Memory Architecture
- Lecture 46 - Shared Memory Architecture - Part I
- Lecture 47 - Virtually Indexed - Virtually Tagged and Physically Tagged Caches
- Lecture 48 - Lab 4
- Lecture 49 - Shared Memory Architecture, Cache Coherence
- Lecture 50 - Concurrent Programming in Hardware - Part I
- Lecture 51 - Concurrent Programming in Hardware - Part II
- Lecture 52 - Conclusion