

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

NPTEL Video Course - Electronics and Communication Engineering - NOC:Design of Power Electronic Converters

Subject Co-ordinator - Prof. Shabari Nath

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction
- Lecture 2 - Analysis of Buck Converter
- Lecture 3 - Choosing L and C
- Lecture 4 - Design Example of Buck Converter
- Lecture 5 - Analysis of H Bridge
- Lecture 6 - Bipolar PWM
- Lecture 7 - Unipolar PWM
- Lecture 8 - Bipolar vs Unipolar PWM
- Lecture 9 - Different types of power diode
- Lecture 10 - Diode characteristics
- Lecture 11 - Diode Datasheets
- Lecture 12 - Diode Datasheet Examples
- Lecture 13 - MOSFET
- Lecture 14 - Switching characteristics of MOSFET
- Lecture 15 - MOSFET Datasheets - I
- Lecture 16 - MOSFET Datasheets - II
- Lecture 17 - MOSFET Datasheet example
- Lecture 18 - IGBT
- Lecture 19 - IGBT Datasheets - I
- Lecture 20 - IGBT Datasheets - II
- Lecture 21 - IGBT Datasheet Example
- Lecture 22 - Introduction to Gate Drivers
- Lecture 23 - Gate Driver Requirements
- Lecture 24 - Optocouplers based Gate Drivers - I
- Lecture 25 - Optocouplers based Gate Drivers - II
- Lecture 26 - Desat Protection
- Lecture 27 - Bootstrapping
- Lecture 28 - Pulse Transformer based Gate Drivers
- Lecture 29 - Gate Drivers - Few Other Requirements

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

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- Lecture 30 - Introduction to Snubbers
- Lecture 31 - RC Snubber Analysis - I
- Lecture 32 - RC Snubber Analysis - II : Underdamped Case
- Lecture 33 - RC Snubber Analysis - III : Overdamped and Critically Damped Case
- Lecture 34 - RC Snubber Design - I
- Lecture 35 - RC Snubber Design - II
- Lecture 36 - RCD Snubbers - I
- Lecture 37 - RCD Snubbers - II
- Lecture 38 - Power Loss - I
- Lecture 39 - Power Loss - II
- Lecture 40 - Thermal Modelling - I
- Lecture 41 - Thermal Modelling - II
- Lecture 42 - Thermal Modelling - III
- Lecture 43 - Choosing Heat Sinks
- Lecture 44 - Fundamentals
- Lecture 45 - Magnetic Losses
- Lecture 46 - Conductors
- Lecture 47 - Magnetic Materials
- Lecture 48 - Magnetic Core
- Lecture 49 - Inductor Design - I
- Lecture 50 - Inductor Design - II
- Lecture 51 - Transformer Design
- Lecture 52 - Inductor Design Example
- Lecture 53 - Example of Transformer Design
- Lecture 54 - Introduction to EMI
- Lecture 55 - EMI Measurements
- Lecture 56 - EMI in Power Electronics
- Lecture 57 - CM and DM noise
- Lecture 58 - Design Solutions of EMI
- Lecture 59 - EMI Filter - I
- Lecture 60 - EMI Filter - II
- Lecture 61 - Sections of Power Converters
- Lecture 62 - Capacitors
- Lecture 63 - Familiarity with Components - I
- Lecture 64 - Familiarity with Components - II
- Lecture 65 - PCB - I
- Lecture 66 - PCB - II
- Lecture 67 - PCB - III
- Lecture 68 - Grounds

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

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Lecture 69 - Lab Demo of Hardware Design  
Lecture 70 - Tutorial: PCB Designing