

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

NPTEL Video Course - Electrical Engineering - NOC:Electronic Systems for Cancer Diagnosis

Subject Co-ordinator - Prof. Hardik Jeetendra Pandya

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Tissue and Cell Culture Techniques  
Lecture 2 - Tissue and Cell Culture Techniques  
Lecture 3 - Tissue and Cell Culture Techniques  
Lecture 4 - Cleanroom Equipments  
Lecture 5 - Cleanroom Equipments (Continued...)  
Lecture 6 - Introduction to photolithography  
Lecture 7 - Photolithography  
Lecture 8 - Photolithography  
Lecture 9 - Micromachining Techniques  
Lecture 10 - Breast Cancer and Oral Cancer Statistics  
Lecture 11 - Fabrication of MEMs-based Biochip for cancer diagnosis  
Lecture 12 - Fabrication of MEMs-based Biochip for cancer diagnosis (Continued...)  
Lecture 13 - Fabrication of Piezoresistive Sensor  
Lecture 14 - Fabrication of Piezoresistive Sensor (Continued...)  
Lecture 15 - Fabrication of SU-8 pillar on piezoresistive Sensor  
Lecture 16 - Portable Cancer Diagnostic Tool Using a Disposable MEMS-Based Biochip  
Lecture 17 - Mechanical Phenotyping of Breast Cancer using MEMS  
Lecture 18 - Electrical characterization of Breast Tissue Cores  
Lecture 19 - Fabrication of MEMS-based sensor for electro-mechanical phenotyping of breast cancer  
Lecture 20 - Fabrication of electro-mechanical sensor (Continued...)  
Lecture 21 - Assembly of the electro-mechanical sensor  
Lecture 22 - Silicon substrate devices for breast cancer diagnosis  
Lecture 23 - Understanding the methods and mechanism to study cell morphology  
Lecture 24 - Cytology - A detail study on Spin Coater and Cytospin  
Lecture 25 - Techniques in oral cytology studies  
Lecture 26 - Techniques in cell morphology analysis  
Lecture 27 - Comparative study on diagnostic tools for oral cancer screening  
Lecture 28 - Basic building blocks of Electronics System  
Lecture 29 - Basic building blocks of Electronics System

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Lecture 30 - Basic building blocks of Electronics System  
Lecture 31 - Basic building blocks of Electronics System  
Lecture 32 - Basic building blocks of Electronics System  
Lecture 33 - Basic building blocks of Electronics System  
Lecture 34 - Basic building blocks of Electronics System  
Lecture 35 - Basic building blocks of Electronics System  
Lecture 36 - Basic building blocks of Electronics System  
Lecture 37 - Etching Process and Figure of Merits  
Lecture 38 - ECG Signal Processing to calculate BPM  
Lecture 39 - ECG Signal Processing to calculate BPM (Continued...)  
Lecture 40 - ECG Signal Processing to calculate BPM (Continued...)  
Lecture 41 - ECG Signal Processing to calculate BPM (Continued...)  
Lecture 42 - ECG Signal Processing to calculate BPM (Continued...)  
Lecture 43 - ECG Signal Processing to calculate BPM [Continued...]  
Lecture 44 - MEMS based Force Sensor for Catheter Contact Force Measurement  
Lecture 45 - 3D Printing  
Lecture 46 - 3D Fabrication Techniques  
Lecture 47 - Gowning Procedure in Clean Room  
Lecture 48 - Introduction to Equipments  
Lecture 49 - PDMS Moulding procedure  
Lecture 50 - Introduction to Equipments  
Lecture 51 - Introduction to Equipments  
Lecture 52 - Micromanipulator  
Lecture 53 - Biosafety Cabinet and Ultrasonicbath  
Lecture 54 - Incubator Shaker  
Lecture 55 - Hotplate and Microcentrifuge  
Lecture 56 - Autoclave  
Lecture 57 - Impedance Analyser  
Lecture 58 - Rapid Prototyping using 3D Printer  
Lecture 59 - Etching Process  
Lecture 60 - Electronic System for Drug Screening  
Lecture 61 - Introduction to Equipments  
Lecture 62 - Introduction to Equipments  
Lecture 63 - Electronic Module for Gas sensor  
Lecture 64 - Fabrication process flow for a metal oxide gas sensor  
Lecture 65 - MEMS Simulation using Comsol Multiphysics  
Lecture 66 - Introduction to COMSOL Multiphysics  
Lecture 67 - COMSOL Examples for MEMS Applications  
Lecture 68 - COMSOL Examples for MEMS Applications (Continued...)

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- Lecture 69 - Demonstration of Thermal Actuator and Understanding of Application Builder
- Lecture 70 - Closed loop control of temperature sensor
- Lecture 71 - Experimental Set-up of closed loop control of temperature sensor