

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

NPTEL Video Course - Mechanical Engineering - NOC:Oil Hydraulics and Pneumatics

Subject Co-ordinator - Prof. Somashekhar S

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Introduction, Learning Objectives, Course Content and References
- Lecture 2 - Merits and Demerits of Fluid Power, Power Transmission Method
- Lecture 3 - Brief History, Application Areas, Major Divisions of Fluid Power System
- Lecture 4 - Introduction to Oil Hydraulics and its Basic Components
- Lecture 5 - Introduction to Pneumatic and its Basic Components, Applications-Stationary and Mobile
- Lecture 6 - Typical Application of Fluid Power System, Status and Development
- Lecture 7 - Pascal's law and its application-Hydraulic jack, Hydraulic brake and Numerical
- Lecture 8 - Pressure Intensifier, Numericals, Air-to-Hydraulic Booster and Bernoulli equation
- Lecture 9 - Applications of Bernoulli equation-Venturi,Torricelli's theorem, Siphon, Continuity equation and
- Lecture 10 - Introduction to Fluid Power Symbols, Hydraulic lines and Color Coding
- Lecture 11 - Symbols for Functional Units, Hydraulic Pumps, Hydraulic Motors, Cylinders, Air Compressors, Pne
- Lecture 12 - Symbols for Filters, Check Valves, DCVs, Spool Actuation methods, PCV, Miscellaneous, Port Confi
- Lecture 13 - Introduction to Hydraulic Pumps, Facts and Figures, Classifications
- Lecture 14 - Positive Displacement pump and pumping theory
- Lecture 15 - Ideal pump, pump losses, efficiency curve, Constructional features and Operations of External Ge
- Lecture 16 - Construction features and operations of Internal Gear Pump, Gerotor Pump and Screw Pump
- Lecture 17 - Numericals on Gear Pump, Tree Structure of Vane Pump
- Lecture 18 - Vane Pump, Pumping theory, Construction and Operation of Unbalanced Vane Pump, Vane loading and
- Lecture 19 - Variable Displacement Pressure Compensated Vane Pump, Balance Vane Pump, Kinematic Inversion of
- Lecture 20 - Piston pump, Pumping theory, Constructional features and Operations of Hand Pump-Single acting,
- Lecture 21 - Axial Piston Pump- Construction and Operating principles of Bent axis and Swash plate type pump
- Lecture 22 - Radial Piston Pumps- Construction and Operation, Pump failure and Cavitations, Important paramet
- Lecture 23 - Pneumatic Control System-Introduction, Air preparation-Primary and Secondary Air Treatment
- Lecture 24 - Pneumatic Power Source- Compressor, Classification, Air Receiver and Control Methods
- Lecture 25 - Reciprocating Type Air Compressor-Single and Multi-stage Piston Pump, PV Diagram and Work Done
- Lecture 26 - Construction and Operation of Two-stage Reciprocating type Air Compressor, Diaphragm Type Air Co
- Lecture 27 - Energy Loss and Cost Break Down in Air Preparation Process, Pressure Drop and its Effect
- Lecture 28 - What causes Pressure Drop ?, Minimising Pressure Drop, Air Distribution System- Sizing of Pipes,
- Lecture 29 - Pressure drop Predictions using Various Empirical Formulae and Nomogram, Best Practices for Comp

Get DIGIMAT For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

<http://www.digimat.in>

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

- Lecture 30 - Need for Air Dryer, Analysis of Moisture Removal from Air, Typical Air Drying Methods, Basic Types
- Lecture 31 - Construction and Operation of Refrigerated Air dryers, Absorption Dryer, Adsorption Dryer, Membrane Dryer
- Lecture 32 - Directional Control Valves
- Lecture 33 - Directional Control Valves
- Lecture 34 - Directional Control Valves
- Lecture 35 - Directional Control Valves
- Lecture 36 - Directional Control Valves
- Lecture 37 - Pressure Control Valves
- Lecture 38 - Pressure Control Valves
- Lecture 39 - Pressure Control Valves
- Lecture 40 - Flow Control Valves
- Lecture 41 - Flow Control Valves
- Lecture 42 - Flow Control Valves
- Lecture 43 - Estimation of leakage through spool and housing bore and Numericals on DCV, PCV and FCV
- Lecture 44 - Estimation of leakage through spool and housing bore and Numericals on DCV, PCV and FCV
- Lecture 45 - Hydraulic Motors
- Lecture 46 - Hydraulic Motors
- Lecture 47 - Hydraulic Motors
- Lecture 48 - Hydraulic Motors
- Lecture 49 - Hydraulic Motors
- Lecture 50 - Hydraulic Motors
- Lecture 51 - Hydraulic Cylinders
- Lecture 52 - Hydraulic Cylinders
- Lecture 53 - Hydraulic Cylinders
- Lecture 54 - Hydraulic Cylinders
- Lecture 55 - Hydraulic Cylinders
- Lecture 56 - Numericals on Fluid Power Actuators
- Lecture 57 - Numericals on Fluid Power Actuators
- Lecture 58 - Subsystems: Hydraulic Reservoir, Coolers and Filters
- Lecture 59 - Subsystems: Hydraulic Reservoir, Coolers and Filters
- Lecture 60 - Subsystems: Hydraulic Reservoir, Coolers and Filters
- Lecture 61 - Subsystems: Hydraulic Fluids, Conduits and Simple Numericals
- Lecture 62 - Subsystems: Hydraulic Fluids, Conduits and Simple Numericals
- Lecture 63 - Subsystems: Hydraulic Fluids, Conduits and Simple Numericals
- Lecture 64 - Subsystems: Hydraulic accumulators, Classifications, Applications, Accumulator physics, Maintenance
- Lecture 65 - Subsystems: Hydraulic accumulators, Classifications, Applications, Accumulator physics, Maintenance
- Lecture 66 - Subsystems: Hydraulic accumulators, Classifications, Applications, Accumulator physics, Maintenance
- Lecture 67 - Oil Hydraulic Circuits: Design and Analysis
- Lecture 68 - Oil Hydraulic Circuits: Design and Analysis

Get DIGIMAT For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

<http://www.digimat.in>

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

- Lecture 69 - Oil Hydraulic Circuits: Design and Analysis
- Lecture 70 - Task Based Selection and Analysis of Oil Hydraulic Circuits
- Lecture 71 - Task Based Selection and Analysis of Oil Hydraulic Circuits
- Lecture 72 - Task Based Selection and Analysis of Oil Hydraulic Circuits
- Lecture 73 - Task Based Selection and Analysis of Oil Hydraulic Circuits
- Lecture 74 - Pneumatic Circuits: Design and Analysis
- Lecture 75 - Pneumatic Circuits: Design and Analysis
- Lecture 76 - Pneumatic Circuits: Design and Analysis
- Lecture 77 - Pneumatic Circuits: Design and Analysis of Multiple Actuators
- Lecture 78 - Pneumatic Circuits: Design and Analysis of Multiple Actuators
- Lecture 79 - Pneumatic Circuits: Design and Analysis of Multiple Actuators
- Lecture 80 - Pump-controlled Hydraulic Systems
- Lecture 81 - Pump-controlled Hydraulic Systems
- Lecture 82 - Pump-controlled Hydraulic Systems
- Lecture 83 - Hydrostatic Transmissions
- Lecture 84 - Hydrostatic Transmissions
- Lecture 85 - Hydrostatic Transmissions
- Lecture 86 - Proportional Valve Technology
- Lecture 87 - Proportional Valve Technology
- Lecture 88 - Proportional Valve Technology
- Lecture 89 - Electro Hydraulic Servo Valve (EHSV)
- Lecture 90 - Electro Hydraulic Servo Valve (EHSV)
- Lecture 91 - Electro Hydraulic Servo Valve (EHSV)
- Lecture 92 - Electro-Hydraulic Actuator (EHA)
- Lecture 93 - Electro-Hydraulic Actuator (EHA)
- Lecture 94 - Modeling and Simulation in Hydraulic Components
- Lecture 95 - Modeling and Simulation in Hydraulic Components
- Lecture 96 - Modeling and Simulation in Hydraulic Components