

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

NPTEL Video Course - Mechanical Engineering - Solar Energy Technology

Subject Co-ordinator - Prof. V.V. Satyamurty

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Energy and Dependence on External Sources and Sun, Physical Descriptions and Reactions
- Lecture 2 - Sun - Earth Geometry
- Lecture 3 - Terminology Extra - Terrestrial Radiation Terrestria Radiation
- Lecture 4 - Measuring Instruments
- Lecture 5 - Estimation of Solar Radiation or Details
- Lecture 6 - Radiation Processing - Long Term
- Lecture 7 - Evaluation of the Apparent Sunrise and Sunset Angles
- Lecture 8 - Estimation of Daily/Monthly Average daily Tilt Factor Under Terrestrial Conditions
- Lecture 9 - Solar Collector Basics
- Lecture 10 - Transmission - Absorptance Product
- Lecture 11 - Daily (Or Monthly Average Daily) Transmittance - Absorptance Product Analytical Evaluation
- Lecture 12 - Theory of Flat Plate Collectors - Liquid Based (A)
- Lecture 13 - Theory of Flat Plate Collectors - Liquid Based (B)
- Lecture 14 - Theory of Flat Plate Collectors - Liquid Based (C)
- Lecture 15 - Mean temperature and Heat Capacity Effects
- Lecture 16 - Theory of Air Based Solar Flat Plate Collectors
- Lecture 17 - Theory of Air Based Solar Flat Plate Collectors (Continued.)
- Lecture 18 - Other Collector Geometries
- Lecture 19 - Concentrating Collectors
- Lecture 20 - Concentrating Collectors (Continued.)
- Lecture 21 - Concentrating Collectors (Continued.)
- Lecture 22 - Compound Parabolic Collectors
- Lecture 23 - Exercise - I
- Lecture 24 - Exercise - I (Continued.)
- Lecture 25 - Device and System Performance
- Lecture 26 - Long Term Solar Energy System Performance
- Lecture 27 - Exercise - I (Continued.)
- Lecture 28 - Long Term Solar Energy System Performance Simplified Design Methods
- Lecture 29 - Long Term Solar Energy System Performance Simplified Design Methods (Continued.)

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- Lecture 30 - Monthly Average Daily Utilizability
- Lecture 31 - The $\phi(\bar{h}) - f$ chart method (Continued.)
- Lecture 32 - The $\phi(\bar{h}) - f$ chart method Tank Losses and Finite Heat Exchanger
- Lecture 33 - Exercise - 2
- Lecture 34 - Exercise - 2 (Continued.)
- Lecture 35 - Exercise - 2 (Continued.)
- Lecture 36 - Economic Analysis
- Lecture 37 - Life Cycle Savings
- Lecture 38 - Passive Devices
- Lecture 39 - Passive Architecture, Overhangs and Wing Walls
- Lecture 40 - Passive Architecture, Overhangs and Wing Walls (Continued.)
- Lecture 41 - Summary
- Lecture 42 - Summary (Continued.)
- Lecture 43 - Summary (Continued.)