Mindluster Platform

About the course Thermal Engineering Basics

Thermal Engineering course, In this course we explore the principles and applications of heat and energy transfer, focusing on efficient systems and processes.

Engineering Category's Courses

Course Lesson(67)

Lesson 1 : **Thermal Engineering Basic and Applied Intro Video**

Lesson 2 : **Lec 1 First law of Thermodynamics for control mass and control volume systems**

Lesson 3 : **Lec 2 First law of Thermodynamics for control volume system Flow system**

Lesson 4 : **Lec 3 Steady State Steady Flow Processes combination of First and Second Laws**

Lesson 5 : **Lec 4 Second Law of Thermodynamics A Brief Review**

Lesson 6 : **Lec 5 Combined First and Second Laws Applied to Processes**

Lesson 7 : **Lec 6 Combined First and Second Laws Flow and Non Flow Processes**

Lesson 8 :
Lec 7 Description of Steam Power Plant Application of 1st and 2nd Laws to Different Processes

Lesson 9 : **Lec 8 Second Law Applied to Processes of Power Plant and Ideal Cycle of Power Plant**

Lesson 10 : **Lec 9 Steam Power Plant Thermodynamic aspects Efficiency Work ratio and Ideal Cycle**

Lesson 11 : **Lec 10 Ideal Power Cycle and its Limitations Introduction to Actual Power Cycle**

Lesson 12 : **Lec 11 Limitations of Carnot Cycle Simple Rankine Cycle and Analysis**

Lesson 13 : **Lec 13 Reheat Cycle and Analysis**

Lesson 14 : **Lec 12 Analysis of Simple Rankine Cycle and its Design Modifications**

Lesson 15 : **Lec 14 Reheat Cycle and Analysis Cont**

Lesson 16 : **Lec 15 Regenerative Principle of Steam Power Cycles**

Lesson 17 : **Lec 16 Analysis of Regenerative Steam Power Cycles**

Lesson 18 :
Lec 17 Regenerative Steam Power Cycle with Closed Feed Water Heater Ideal Working Fluid

Lesson 19 : **Lec 18 Multi fluid Cycle and Analysis**

Lesson 20 : **Lec 19 Analysis of Multi fluid Cycle Second Law Analysis of Steam Power Cycle**

Lesson 21 : **Lec 20 Problems of Steam Power Cycle**

Lesson 22 : **Lec 21 Problems of Steam Power Cycle Cont**

Lesson 23 : **Lec 22 Types of Boiler Different Cycles in Boiler Operation Boiler attachment**

Lesson 24 : **Lec 23 Cochran Boiler Operation Boiler attachment**

Lesson 25 : **Lec 24 Boiler Attachments**

Lesson 26 : **Lec 25 Superheaters and their Arrangements Steam Temperature Control**

Lesson 27 : **Lec 26 Characteristics of Convective and Radiant Superheaters Steam Temperature Control**

Lesson 28 : **Lec 27 Problems on Boiler Steam Generator**

Lesson 29 : **Lec 28 Use of nozzles in steam power plant flow analysis of steam in nozzle**

Lesson 30 : **Lec 29 Flow analysis of steam in nozzle Mass flow rate**

Lesson 31 : **Lec 30 Mass flow rate of steam in nozzle Critical Pressure Ratio**

Lesson 32 : **Lec 31 Critical Pressure Ratio and its Physical Significance**

Lesson 33 : **Lec 32 Nozzle efficiency and factors that affect the efficiency**

Lesson 34 : **Lec 33 Factors that affect the efficiency problem on flow nozzle**

Lesson 35 : **Lec 34 Problem on flow nozzle**

Lesson 36 : **Lec 35 Steam Turbines types and analysis using velocity triangles**

Lesson 37 : **Lec 36 Analysis of Impulse Steam Turbine**

Lesson 38 : **Lec 37 Compounding of Steam Turbine**

Lesson 39 : **Lec 38 Analysis of Reaction Steam Turbine**

Lesson 40 : **Lec 39 Problems on Steam Turbine**

Lesson 41 : **Lec 40 The Role of Condenser in Power Plant**

Lesson 42 : **Lec 41 Cooling Tower Types and Analysis**

Lesson 43 : **Lec 42 Cooling Tower Performance**

Lesson 44 : **Lec 43 IC Engines Classification Different Parts SI and CI Engines**

Lesson 45 : **Lec 44 Comparison of 2 stroke and 4 stroke Engines**

Lesson 46 : **Lec 45 Comparison of SI and CI Engines Compression Ratio**

Lesson 47 : **Lec 46 Introduction to Carburettor and Regimes of Engine Operation**

Lesson 48 : **Lec 47 Regimes of Engine Operation and Simple Float Type Carburettor**

Lesson 49 : **Week 48 Simple Float Type Carburettor and its Analysis**

Lesson 50 : **Week 49 Mass Flow Rate of Fuel and limitations of Simple Float Type Carburettor**

Lesson 51 : **Week 50 Limitations of Simple Float Type Carburettor Problem on Carburettion**

Lesson 52 : **Week 51 Engine Operating Characteristics MEP and Indicator diagram**

Lesson 53 : **Week 52 Performance Analysis parameters of IC Engine**

Lesson 54 : **Week 53 Fuel of IC Engines**

Lesson 55 : **Week 54 Alternative Fuels and Self Ignition Characteristics of Fuel Octane Numner Cetane Number**

Lesson 56 : **Lec 55 Thermodynamic Analysis of SI Engine**

Lesson 57 : **Lec 56 Thermodynamic Analysis of CI Engine**

Lesson 58 : **Lec 57 Numerical Problems on Engine Performance**

Lesson 59 : **Lec 58 Pressure Crank angle diagram Engine Efficiencies**

Lesson 60 : **Lec 59 Numerical Problems on SI and CI Engines**

Lesson 61 : **Lec 60 Vapour Compression Refrigeration Cycle and its analysis**

Lesson 62 : **Lec 61 Problems on Vapour Compression Refrigeration Cycle**

Lesson 63 : **Lec 62 Gas Turbine Units and Thermodynamic Cycles**

Lesson 64 : **Lec 63 Gas Compressor and Optimum Pressure Ratio**

Lesson 65 : **Lec 64 Compressor Efficiency and Multistage Compression with Intercooling**

Lesson 66 : **Lec 65 Gas Turbine Unit Combined Cycle**

Lesson 67 : **Lec 66 Problems On Gas Turbine Cycle**

Related courses

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