Mindluster Platform

About the course Hydraulic Machines Principles

Hydraulic Machines course in hindi, In this course we explore the principles and applications of hydraulic machinery in engineering and fluid power systems.

Engineering Category's Courses

Course Lesson(59)

Lesson 1 : **Principle of Hydraulic Machines and System Design Intro Video**

Lesson 2 : **Lec 1 Introduction to hydraulic machines classifications and operational principles**

Lesson 3 : **Lec 2 Euler equation for turbomachines net head developed by the pump turbines**

Lesson 4 : **Lec 3 Velocity triangles of pumps effect of inlet swirl on pump operation**

Lesson 5 : **Lec 4 Velocity triangles of pumps effect of inlet swirl on pump operation**

Lesson 6 : **Lec 5 Pump casings Efficiencies and Problems**

Lesson 7 : **Lec 6 Pump casings Efficiencies and Problems II**

Lesson 8 : **Lec 7 Pump casings Efficiencies and Problems III**

Lesson 9 : **Lec 8 Axial flow pump HQ curve System Resistance Curve I**

Lesson 10 : **Lec 9 Axial flow pump HQ curve System Resistance Curve II**

Lesson 11 : **Lec 10 HQ Curve System Resistance Curve I**

Lesson 12 : **Lec 11 HQ Curve System Resistance Curve II**

Lesson 13 : **Lec 12 Introduction to Cavitation**

Lesson 14 : **Lec 13 Condition for Cavitation and NPSH**

Lesson 15 : **Lec 14 Net Positive Suction Head NPSH**

Lesson 16 : **Lec 15 Suction number and Introduction to off design condition**

Lesson 17 : **Lec 16 Cavitation The effect of off design Conditions**

Lesson 18 : **Lec 17 Cavitation Preventive Measures**

Lesson 19 : **Lec 18 Cavitation Preventive Measures Effect on Pump Characteristic**

Lesson 20 : **Lec 19 Problems on Cavitation**

Lesson 21 : **Lec 20 Introduction to Slip Stodola Slip Model**

Lesson 22 : **Lec 21 Departure from Euler theory**

Lesson 23 : **Lec 22 Slip Velocity I**

Lesson 24 : **Lec 23 Slip Velocity II**

Lesson 25 : **Lec 24 Problem on slip**

Lesson 26 : **Lec 25 Degree of reaction of pump**

Lesson 27 : **Lec 26 Degree of reaction and axial pump design**

Lesson 28 : **Lec 27 Testing of radial flow pump I**

Lesson 29 : **Lec 28 Testing of radial flow pump II**

Lesson 30 : **Lec 29 Problem on radial flow pump testing**

Lesson 31 : **Lec 30 Radial equilibrium of axial flow pump I**

Lesson 32 : **Lec 31 Radial equilibrium of axial flow pump II**

Lesson 33 : **Lec 32 Pump operation series and parallel connection**

Lesson 34 : **Lec 33 Series and parallel operation of dissimilar pumps**

Lesson 35 : **Lec 34 Pumping system design**

Lesson 36 : **Lec 35 Design of parellel pumping system**

Lesson 37 : **Lec 36 Numerical problem on pumps I**

Lesson 38 : **Lec 37 Numerical problem on pumps II**

Lesson 39 : **Lec 38 Numerical problem on pumps III**

Lesson 40 : **Lec 39 Working principle and Indicator diagram of PD pump**

Lesson 41 : **Lec 40 Working principle and Indicator diagram of PD pump contd**

Lesson 42 : **Lec 41 Modified indicator diagram and Head Discharge curve**

Lesson 43 : **Lec 42 Analysis and Head Discharge curve of PD pump**

Lesson 44 : **Lec 43 Analysis and efficiencies of PD pump**

Lesson 45 : **Lec 44 Requirement of air chamber in PD pump**

Lesson 46 : **Lec 45 Numerical problem on PD pump with air chamber**

Lesson 47 : **Lec 46 Similarity and dimensional analysis of hydraulic machines**

Lesson 48 : **Lec 47 Dimensional analysis of hydraulic machines Buckingham s â„¼ theorem**

Lesson 49 : **Lec 48 Buckingham s â„¼ theorem Specific speed of hydraulic machines**

Lesson 50 : **Lec 49 Turbine Classification and Operational principle of Pelton wheel**

Lesson 51 : **Lec 50 Velocity Tiangles and analysis**

Lesson 52 : **Lec 51 Operational Principle of Reaction turbine**

Lesson 53 : **Lec 52 Degree of Reaction and Introduction to axial flow turbine**

Lesson 54 : **Lec 53 Kaplan Turbine Operational Principle Turbine efficiencies**

Lesson 55 : **Lec 54 Draft Tube for Reaction Turbine and Cavitation**

Lesson 56 : **Lec 55 Energy Balance and NPSH**

Lesson 57 : **Lec 56 Thoma Cavitation Factor**

Lesson 58 : **Lec 57 Reaction Turbine Design aspects and Characteristic Curves**

Lesson 59 : **Lec 58 Problems on Impulse and Reaction Turbines**

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