Mindluster Platform

About the course Design of machine elements

Course Presenter : Agriculture Irrigation Engineering

Design of machine elements, in this course introduces learners to the fundamental principles and methods used to design essential mechanical components. It covers stress analysis, material selection, and safety considerations to ensure parts perform reliably under different loads and conditions. Students will study the design of shafts, keys, couplings, bolts, springs, bearings, gears, and other vital elements used in machines and industrial systems. The course emphasizes applying theories of strength of materials, fatigue, and failure analysis to practical design problems. Learners will also gain skills in calculating dimensions, tolerances, and factors of safety for real-world applications. By combining theory with examples, the course builds the foundation required for mechanical engineering practice, enabling participants to create efficient, safe, and cost-effective machine elements for diverse industries. Agriculture Irrigation Engineering

Agriculture Category's Courses

Course Lesson(14)

Lesson 1 :
Design of Machine Elements Lecture 1 Fundamental concepts in design Introduction to design process

Lesson 2 :
Design of Machine Elements Lecture 2 Fundamental design concepts Introduction to direct stresses

Lesson 3 :
Design of machine elements Lecture 4 Eccentric loading stress concentration Fluctuating stresses

Lesson 4 :
Design of machine elements Lecture 3 Solved problem Bending torsional loading Theories of failure

Lesson 5 :
Design of machine elements Lecture 5 Combined Steady Variable Stress Gerber Goodman Soderberg method

Lesson 6 :
Design of machine elements Lecture 6 Design of Shafts Torsional Bending Combined Axial Combined load

Lesson 7 :
Design of machine elements lecture 7 Keys Keyways Forces acting on keys Design of keys Types of keys

Lesson 8 :
Unit IIâ€“Lecture 3 Shaft couplings Rigid flexible couplings Design of muff split muff coupling

Lesson 9 :
Unit 3 TEMPORARY AND PERMANENT JOINTS Lecture 1 Riveted joints for structures Rivet failures

Lesson 10 : **Unit 3 â€“ lecture 2 Welded joints Butt Joints Lap joints Fillet welds Parallel Welds**

Lesson 11 : **Unit 3 â€“ lecture 3 Bolted joints Screwed joints Screw types Bolt types**

Lesson 12 :
Unit 4 â€“ lecture 2 Flywheels considering stresses in rims and arms Solid and Rimmed flywheels

Lesson 13 : **Unit 4 lecture 1 Springs Helical and Leaf Springs**

Lesson 14 :
Unit 5 lecture 1 Introduction to bearings Sliding contact bearings Hydrodynamic bearings

Related courses

Growing fenugreek

Growing microgreens

Growing eggplants in containers

Growing Peas in containers

Growing raspberries

Growing chocolate

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