Mindluster Platform

About the course Spherical dome Analysis

Spherical dome Analysis course, in this course Explore the intricacies of analyzing spherical domes, covering design, structural assessment, and mathematical techniques.

Engineering Category's Courses

Course Lesson(37)

Lesson 1 : **Plates and Shells Intro Video**

Lesson 2 : **Lec 1 Introduction classification of plates and some useful relations**

Lesson 3 : **Lec 2 Theory of thin plate bending**

Lesson 4 : **Lec 3 Plate equations and boundary conditions with examples**

Lesson 5 : **Lec 4 Exercises on the plate bending theory**

Lesson 6 : **Lec 5 Simply supported plate subjected to distributed loading**

Lesson 7 : **Lec 6 Simply supported plate subjected to concentrated load and couple**

Lesson 8 : **Lec 7 Simply supported plate resting on elastic foundation and other examples**

Lesson 9 :
Lec 8 General formulation for rectangular plate with two opposite edges simply supported

Lesson 10 : **Lec 9 Levy s solution for different loading and boundary conditions**

Lesson 11 : **Lec 10 Rectangular plate with Levy s boundary condition subjected to edge moment**

Lesson 12 :
Lec 11 Transformation of plate equation from rectangular co ordinates to polar co ordinates

Lesson 13 :
Lec 12 Axi symmetrical bending of circular plate under pure moment and uniformly distributed load

Lesson 14 : **Lec 13 Examples in axisymmetrical bending of solid and annular plate**

Lesson 15 : **Lec 14 Variational principle in plate problem**

Lesson 16 : **Lec 15 Applications of Rayleigh Ritz and Gallerkin s method**

Lesson 17 : **Lec 16 Finite difference method in plate bending**

Lesson 18 : **Lec 17 Plate subjected to inplane forces and transverse load**

Lesson 19 : **Lec 18 Buckling load of rectangular plate plate with Navier s boundary condition**

Lesson 20 : **Lec 19 Buckling load of rectangular with Levy s boundary condition**

Lesson 21 : **Lec 20 Rayleigh Ritz and Gallerkin method in buckling of plate**

Lesson 22 : **Lec 21 Finite difference method in buckling of plate**

Lesson 23 : **Lec 22 Introduction to shell structure and behavior of stretched membrane**

Lesson 24 : **Lec 23 Classification of shell structure**

Lesson 25 : **Lec 24 Stress resultants and couples in shells**

Lesson 26 : **Lec 25 Membrane analysis of shells of surface of revolution**

Lesson 27 : **Lec 26 Analysis of Spherical dome**

Lesson 28 : **Lec 27 Some examples of axi symmetrical cases in surface of revolution**

Lesson 29 : **Lec 28 Membrane theory in pressure vessels**

Lesson 30 :
Lec 29 Membrane theory in pressure vessel in the form a Torus and in a tank of arbitrary meridian

Lesson 31 : **Lec 30 Membrane theory of hyperboloid of revolution Application to cooling tower**

Lesson 32 :
Lec 31 Differential Equations of Equilibrium in Cylindrical shell using membrane hypothesis

Lesson 33 :
Lec 32 Membrane Analysis of Cylindrical Shell roof subjected to self weight and snow load

Lesson 34 : **Lec 33 Circular Cylindrical Shell for Fourier Loading in a membrane state of stress**

Lesson 35 : **Lec 34 Simplified Bending Theory of Cylindrical Shell Beam and Arch theories**

Lesson 36 : **Lec 35 General bending theory of cylindrical shell**

Lesson 37 : **Lec 36 Some applications of symmetrical bending of circular cylindrical shell**

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