

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

NPTEL Video Course - Ocean Engineering - Dynamics of Ocean Structures

Subject Co-ordinator - Dr. Srinivasan Chandrasekaran

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Introduction to different types of ocean structures - I
- Lecture 2 - Introduction to different types of ocean structures - II
- Lecture 3 - Introduction to different types of ocean structures - III
- Lecture 4 - Types of Compliant towers
- Lecture 5 - New Generation offshore and Coastal structures
- Lecture 6 - Environmental forces
- Lecture 7 - Wave forces, Current
- Lecture 8 - Introduction to Structural dynamics
- Lecture 9 - Characteristics of single degree - of - freedom model
- Lecture 10 - Methods of writing equation of motion
- Lecture 11 - Free and forced vibration of single degree - of - freedom systems
- Lecture 12 - Undamped and damped systems - I
- Lecture 13 - Undamped and damped systems - II
- Lecture 14 - Undamped and damped systems - III
- Lecture 15 - Comparison of methods
- Lecture 16 - Examples
- Lecture 17 - Numerical problems in single degree - of - freedom systems
- Lecture 18 - Two degrees - of - freedom systems
- Lecture 19 - Eigenvalues and Eigenvectors
- Lecture 20 - Orthogonality of modes
- Lecture 21 - Study of Multi degrees - of - freedom systems
- Lecture 22 - Equations of motion
- Lecture 23 - Natural frequencies and mode shapes
- Lecture 24 - Stodla, Rayleigh - Ritz and influence coefficient methods, Dunkerley
- Lecture 25 - Continuous system
- Lecture 26 - Structural action of offshore structures
- Lecture 27 - Fluid - Structure interaction - I
- Lecture 28 - Fluid - Structure interaction - II Dynamic analysis of offshore jacket platforms
- Lecture 29 - Steps of analysis using software

Get Digi-MAT (Digital Media Access Terminal) For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

www.digimat.in

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

- Lecture 30 - Steps of analysis using software (Continued...)
- Lecture 31 - Dynamic analysis of articulated towers
- Lecture 32 - Iterative frequency domain - I
- Lecture 33 - Iterative frequency domain - II
- Lecture 34 - Multi - legged articulated towers
- Lecture 35 - Response control of multi-legged articulated towers using tuned mass dampers Experimental and an
- Lecture 36 - Development of Tension Leg Platforms and geometric optimization
- Lecture 37 - Dynamic analyses of TLPs
- Lecture 38 - Development of Mass, stiffness and damping matrices of TLP from first principles
- Lecture 39 - Estimate of classical damping
- Lecture 40 - TLPs under seismic excitation
- Lecture 41 - Direct Integration method
- Lecture 42 - Development of new generation offshore structures
- Lecture 43 - Introduction to stochastic dynamics of ocean structures
- Lecture 44 - Response spectrum
- Lecture 45 - Narrow band process
- Lecture 46 - Return period, Fatigue prediction
- Lecture 47 - Modal response method, Modal mass contribution
- Lecture 48 - Missing mass correction, Example problems
- Lecture 49 - Duhamel's integral