NPTEL Video Course - Civil Engineering - NOC:Rock Mechanics and Tunneling

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Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Objective, scope, and associated problems
Lecture 2 - Rock Engineering Application Areas (Continued...) and Discontinuities in rock
Lecture 3 - Discontinuities in rock (Continued...) and classification of rock
Lecture 4 - Classification of rock based on origin (Continued...)
Lecture 5 - Stereographic projection Stereonet Example
Lecture 6 - Stereographic projection Stereonet Example (Continued...)
Lecture 7 - Rock coring
Lecture 8 - Rock coring (Continued...)
Lecture 9 - Rock coring (Continued...) and Geophysical Methods
Lecture 10 - Geophysical Methods (Continued...)
Lecture 11 - Geophysical Methods (Continued...)
Lecture 12 - Introduction, Physical properties
Lecture 13 - Physical properties (Continued...)
Lecture 14 - Physical properties (Continued...)
Lecture 15 - Mechanical Properties
Lecture 16 - Mechanical Properties (Continued...)
Lecture 17 - Laboratory Testing Methods
Lecture 18 - Laboratory Testing Methods (Continued...)
Lecture 19 - Laboratory Testing Methods (Continued...)
Lecture 20 - Laboratory Testing Methods (Continued...)
Lecture 21 - In-situ Testing Methods
Lecture 22 - Rock mass classification
Lecture 23 - Rock mass classification (Continued...)
Lecture 24 - Rock mass classification (Continued...)
Lecture 25 - Rock mass classification (Continued...)
Lecture 26 - Rock mass classification (Continued...)
Lecture 27 - Analysis of Stresses
Lecture 28 - Analysis of Stresses (Continued...)
Lecture 29 - Analysis of Stresses (Continued...)

Lecture 30 - Analysis of Stresses (Continued...) and Stress-Strain Relationship
Lecture 31 - Introduction to rock and rock mass failure
Lecture 32 - Mohr-Coulomb (MC) Failure Criterion
Lecture 33 - Griffith Crack Theory and Empirical Failure Criteria for Rock
Lecture 34 - Empirical Failure Criteria for Rock (Continued...)
Lecture 35 - Equivalent Mohr-Coulomb (MC) Parameters
Lecture 36 - Failure Criterion in Deviatoric Plane
Lecture 37 - Slopes
Lecture 38 - Slopes (Continued...)
Lecture 39 - Slopes (Continued...)
Lecture 40 - Slopes (Continued...)
Lecture 41 - Underground excavations
Lecture 42 - Foundations
Lecture 43 - Foundations (Continued...)
Lecture 44 - Foundations (Continued...)
Lecture 45 - Foundations (Continued...)
Lecture 46 - Rock support systems
Lecture 47 - Shapes and usages
Lecture 48 - Methods of construction
Lecture 49 - Methods of construction (Continued...)
Lecture 50 - Methods of construction (Continued...)
Lecture 51 - Problems associated with tunnels and Tunneling in various subsoil conditions and rocks
Lecture 52 - Methods to determine stresses around openings: Kirsch equation
Lecture 53 - Methods to determine stresses around openings: Kirsch equation (Continued...)
Lecture 54 - Methods to determine stresses around openings: Kirsch equation contdand Greenspanâ  s method
Lecture 55 - Basic Concepts for Lined, Unlined, and Pressure Tunnels
Lecture 56 - Basic Concepts for Lined, Unlined, and Pressure Tunnels (Continued...)
Lecture 57 - Improvement of rock mass response
Lecture 58 - Improvement of rock mass response (Continued...)
Lecture 59 - Improvement of rock mass response (Continued...)
Lecture 60 - Improvement of rock mass response (Continued...)
Lecture 61 - Improvement of rock mass response (Continued...)