

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

NPTEL Video Course - Agriculture - NOC:Traction Engineering

Subject Co-ordinator - Prof. Hifjur Raheman

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Concept of Traction and Traction Devices
- Lecture 2 - Classification of wheels, Forces and moments acting on wheel
- Lecture 3 - Tyre constructions and its specification
- Lecture 4 - Tractive performance parameters
- Lecture 5 - Tutorial 1
- Lecture 6 - Mechanics of wheel and its tractive performance
- Lecture 7 - Measurement of soil strength, cohesion and angle of internal friction
- Lecture 8 - Measurement and characterization of terrain response
- Lecture 9 - Characterization of shear stress and shear strength in different soil conditions
- Lecture 10 - Tutorial 2 - Measurement of shear strength, modulus of sinkage and cone index
- Lecture 11 - Rolling resistance of a rigid towed wheel
- Lecture 12 - Rolling resistance of a pneumatic wheel
- Lecture 13 - Motion resistance of a track
- Lecture 14 - Tractive effort and slip of a powered rigid wheel
- Lecture 15 - Tutorial 3 - Computation of rolling resistance of rigid wheel and pneumatic wheel
- Lecture 16 - Tractive effort and slip of a track
- Lecture 17 - Tractive effort and slip of a pneumatic wheel
- Lecture 18 - Tractive performance prediction models - Wismer and Luth
- Lecture 19 - Tractive performance prediction models - Brixius
- Lecture 20 - Tutorial 4 - Tractive Performance Estimation Using Brixius Model
- Lecture 21 - Effect of tyre parameters on tractive performance of tyre
- Lecture 22 - Selection of tyre
- Lecture 23 - Comparison of single tyre with dual tyres
- Lecture 24 - Performance evaluation of a walking tractor fitted with track
- Lecture 25 - Tutorial 5
- Lecture 26 - Measurement of Cone Index
- Lecture 27 - Pressure Sinkage Relationship in a Sandy Clay Loam Soil
- Lecture 28 - Measurement of Theoretical Velocity, Actual Velocity and Slip for a Pneumatic Wheel
- Lecture 29 - Measurement of Contact Area of a Pneumatic Tyre on a Hard Surface

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- Lecture 30 - Measurement of Tractice Efficiency
- Lecture 31 - Performance comparison of track with wheel
- Lecture 32 - Traction Aids for Tractors
- Lecture 33 - Ballasting of Wheeled Tractors to achieve Maximum Power Output in Frictional-Cohesive soils
- Lecture 34 - Optimum ballasting of a front wheel assisted tractor
- Lecture 35 - Tutorial 7
- Lecture 36 - Cornering Properties of tyres
- Lecture 37 - Lateral force developed by an unpowered tractor wheel
- Lecture 38 - Steering of wheeled vechiles and steady state handling of front wheel steered vechiles
- Lecture 39 - Classification of steady state handling characteristics and handling diagram
- Lecture 40 - Tutorial 8