NPTEL Video Course - Mechanical Engineering - NOC:Introduction to Robotics

Subject Co-ordinator - Prof. Ashish Dutta

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Robotics
Lecture 2 - Robot Joints and Work Volume
Lecture 3 - Spatial transformations
Lecture 4 - Homogenous Transformtions
Lecture 5 - Practice Problems with MATLAB in Rotation matrices
Lecture 6 - Kinematics: Derivation of Link Transformations
Lecture 7 - Problem Solving DH Parameters
Lecture 8 - Forward Kinematics
Lecture 9 - Inverse Kinematics
Lecture 10 - Problems in Kinematics
Lecture 11 - Inverse Kinematics of PUMA Robot
Lecture 12 - Jacobian and Singularity
Lecture 13 - Velocity and Static Forces
Lecture 14 - Dynamics - Lagrangian Euler
Lecture 15 - Newton Euler Dynamics
Lecture 16 - Trajectory Planning
Lecture 17 - Inverse Dynamics using MATLAB
Lecture 18 - Sensors
Lecture 19 - Actuators and Basic Control System
Lecture 20 - Block Diagram Reduction and Position Regulator
Lecture 21 - Control of a single joint
Lecture 22 - Non Linear Control of Manipulators
Lecture 23 - Force Control
Lecture 24 - Manipulator Mechanism Design
Lecture 25 - Industrial Robots and Applications
Lecture 26 - Specifications and Programming
Lecture 27 - VAL programming
Lecture 28 - Experiment With PUMA Robot Using VAL- II

Get DIGIMAT For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

http://www.digimat.in