

EEE523Industrial Electronics(2 Units)

Department of Electrical and Information Engineering

Covenant University

1. EEE523

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Programmable Logic Controller: Introduction to PLC, PLC instructions, Timing and Counting, Closed-loop and open-loop control using PLC. Mechanical and Solid-State Switches: Mechanical Switches, Electromechanical Devices, Solid-State Switches: BJT MOSFET, UJT, SCR, TRIAC, Application examples. Transducers and Signal Conditioning Circuitry: Thermistors and Sensistors, Magnetic Proximity Sensors, Capacitive and Ultrasonic Level-Sensing Transducers, Pressure and Flow-Sensing Transducers, Force-Sensing Transducers, Signal Conditioning Circuitry for the above devices. Industrial Optoelectronic Devices: Industrial Light Sources, Photoconductive Cells, Photodiodes, Phototransistors, Optoisolators, Optocouplers, Interrupter Modules, Industrial Applications of light sensors, Bar Code and Bar Code Readers. Motors and Motor Control Circuitry: Review of ac and dc motors, Basic dc Motor Control Circuitry, Synchros and Resolvers, Brushless dc Servomotors, Stepper Motors, Motor Drive Circuitry.