

Silver Oak College of Engineering & Technology
Department of Electronics and Communication

4th Sem Mid semester-1(Summer 2019)

Syllabus

Microprocessor & Interfacing (2141001)

Sr.	Topics
1	Introduction To 8-bit Microprocessor History of Microprocessor, 8085 Microprocessor architecture, buses, register, flags. 8085 pin configuration & function of each pin. Fetch, Decode and execute operations. Op-code Fetch, execute cycle, T state, Machine cycle. Memory and I/O read and write cycles WAIT state, interrupt timing diagram.
2	Intel 8085 Microprocessor Instruction Set and Programming Addressing modes of 8085. Data transfer, Arithmetic, Logical, Rotate, Branch and machine control instructions. Development of 8085 assembly language programs

Analog circuit design (2141002)

Sr.	Topics
1	Introduction to Operational Amplifiers, Interpretation of Data Sheets and Characteristics of an Op-amp: Introduction, Block Diagram representation of a typical op-amp, its equivalent circuits, types of ICs, Manufacturers' designations and package types for ICs, Power supplies for ICs, Interpreting datasheet, Ideal op-amp, Equivalent circuit of an op-amp, Ideal voltage transfer curve, Open-loop op-amp configurations
2	An Op-amp with Negative Feedback: Voltage series feedback amplifier, Voltage shunt feedback amplifier, Differential Amplifier
3	General Linear Applications: DC and AC Amplifiers, AC amplifiers with single supply voltage, Peaking amplifier, Summing, Scaling and Averaging Amplifier, Instrumentation Amplifier – its block diagram along with applications, Differential input and differential output amplifier, Voltage-to-current converter with floating load (low voltage DC voltmeter, Integrator, Differentiator

Electronics Measurement and Instrumentation (2141003)

Sr.	Topics
1	Measurement Errors and Standards: Definitions, Accuracy and Precision, Significant Figures, Types of Error, Statistical Analysis, Probability of Errors, Limiting Errors, Time and Frequency Standards, Electrical Standards
2	Bridge Measurements: Wheatstone Bridge, Kelvin Bridge, AC Bridge and their Applications, Maxwell Bridge, Hay's Bridge, Unbalance Conditions, Wein Bridge. Anderson's Bridge, De Sauty's Bridge, Schering Bridge.
3	Transducers: Electrical Transducers Selection and Considerations, Resistive, Strain Gauges, Temperature Transducers: Platinum Resistance Type, Thermistor, Thermocouples, Inductive, LVDT

Control System Engineering (2141004)

Sr.	Topics
1	Introduction to Control Systems: Introduction, Brief History of Automatic Control, Examples of Control Systems, Engineering Design, Mechatronic Systems, The Future Evolution of Control Systems.
2	Mathematical Models of Systems: Differential Equations of Physical Systems, Linear Approximations of Physical Systems, The Laplace Transform, The Transfer Function of Linear Systems, Block Diagram Models, Signal-Flow Graph Models.
3	The Stability of Linear Feedback Systems: The Concept of Stability, The Routh-Hurwitz Stability Criterion, The Relative Stability of Feedback Control Systems, The Stability of State Variable Systems.
4	The Root Locus Method: The Root Locus Concept. The Root Locus Procedure, Parameter Design by the Root Locus Method, Sensitivity and the Root Locus, Three-Term (PID) Controllers.

Signals and Systems (2141005)

Sr.	Topics
1	Basic definitions Basic definitions, Classification of signals and systems. Signal operations and properties. Basic continuous time signals, signal sampling and quantization, discretization of continuous time signals, discrete time signals. Basic system properties, Representation of digital signals. Case study of different signals form communication and biomedical field
2	The z-Transform The z-Transform, Convergence of z-Transform, Basic z-Transform, Properties of z-Transform, Inverse z-Transform and Solving difference equation using z-Transform

