



## MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING

(A Unit of Rajalaxmi Education Trust<sup>®</sup>, Mangalore)

Autonomous Institute affiliated to VTU, Belagavi, Approved by AICTE, New Delhi

Accredited by NAAC with A+ Grade & ISO 9001:2015 Certified Institution

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

(Accredited by NBA)

### 2022 SCHEME

Course Title : Basic Electronics

Course Code : BBEE103

Course Index : C103

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C103.1	Develop basic knowledge on construction, operation, and characteristics of semiconductor devices.
C103.2	Apply the acquired knowledge to construct small scale circuits consisting of semiconductor devices.
C103.3	Develop competent knowledge to study linear op amps and its applications.
C103.4	Develop competent knowledge to construct basic digital circuits by make use of basic gates and its function.
C103.5	Apply the knowledge of various transducer principles in sensor system. Construct the conceptual blocks for basic communication system.

Course Title : Introduction to Electrical Engineering

Course Code : BESCK204B

Course Index : C112

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C112.1	Discuss the power generation concepts and analyze the behavior of DC circuits using Ohm's Law and Kirchhoff's laws.
C112.2	Infer the phasor relationship between voltage and current in series single-phase R-L-C circuit. Identify the relationship between line and phase quantities in a three-phase AC circuit.
C112.3	Outline the relation between terminal voltage, load voltage, flux linkage, torque, and speed in DC Motors and Generators.
C112.4	Illustrate the concept of transformers in transmission and distribution of electric power, Explain the construction and working principle of induction motor.
C112.5	Demonstrate the electric wiring, calculate electricity bill and recognize the need for electrical safety measures.



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Course Title : AV Mathematics-III for EC Engineering

Course Code : BMATE301

Course Index : C201

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C201.1	Demonstrate the Fourier series to study the behavior of periodic functions and their applications in system communications, digital signal processing and field theory.
C201.2	Make use of Fourier transforms to analyze problems involving continuous-time signals
C201.3	Apply Z-Transform techniques to solve difference equations
C201.4	Model dynamical systems into differential equations and solve them to analyze its behavior in real life scenario
C201.5	Make use of correlation and regression analysis to fit a suitable mathematical model for statistical data

Course Title : Digital System Design Using Verilog

Course Code : BEC302

Course Index : C202

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C202.1	Develop simplified Boolean functions using Karnaugh Maps and Quine McClusky techniques.
C202.2	Analyze and design of Combinational Circuits.
C202.3	Analyze the concepts of Flip Flops (SR, D, T, and JK) and to design the Synchronous Sequential Circuits using Flip Flops.
C202.4	Design and model Digital circuits using Verilog descriptions.

Course Title : Electronics Principles and Circuits

Course Code : BEC303

Course Index : C203

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C203.1	Understand the characteristics of BJTs for switching and amplifier circuits.
C203.2	Understand MOS amplifiers with different circuit configurations and biasing conditions.
C203.3	Design of circuits using linear ICs for wide range applications such as ADC, DAC, filters and timers.
C203.4	Apply the feedback topologies and approximations in the design of amplifiers and understand the responses of active filters.
C203.5	Analyze the power amplifier circuits and Understand the power electronic device components and its functions.



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Course Title : Network Analysis

Course Code : BEC304

Course Index : C204

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C204.1	Determine currents and voltages using source transformation/ source shifting/ mesh/nodal analysis and reduce given network using star delta transformation.
C204.2	Solve problems by applying Network Theorems and electrical laws to reduce circuit complexities and to arrive at feasible solutions.
C204.3	Analyze the circuit parameters during switching transients and apply Laplace transform to solve the given network
C204.4	Evaluate the frequency response for resonant circuits and the network parameters for two port networks.

Course Title : Analog and Digital Systems Design Lab

Course Code : BECL305

Course Index : C205

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C205.1	Design and set up Amplifiers, Oscillators using bipolar transistor and to demonstrate audio amplifier, voltage regulator experiment.
C205.2	Design and test Op amp circuits to realize the mathematical computations, DAC and to demonstrate Active filters, 555 applications.
C205.3	Design and test the combinational logic circuits for the given specifications and sequential logic circuits for the given functionality.

Course Title : Computer Organization and Architecture

Course Code : BEC306C

Course Index : C206

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C206.1	Understand the operational concepts of computers, machine instructions and programs, memory.
C206.2	Describe the addressing modes, assembly language basics, stacks and queue operations.
C206.3	Analyze the IO organizations and accessing methods, Enabling and disabling interrupts, DMA operations.
C206.4	Understand the memory systems and their roles in computer systems.
C206.5	Understand the instruction execution steps with single bus and multiple bus organization.



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Course Title : Social Connect and Responsibility

Course Code : BSCK307

Course Index : C207

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C207.1	Understand the need, and social responsibility in plantation, adoption of a tree.
C207.2	Develop connections with people around through their history and knowing the history, culture of the city.
C207.3	Practice sustainability and creativity by understanding the usefulness of organic farming and wet waste management.
C207.4	Apply sustainability by learning the methods of water conservation.
C207.5	Build planning and organizational skills by inculcating healthy food practices.

Course Title : MATLAB Programming

Course Code : BEC358B

Course Index : C208

COURSE OUTCOMES (CO): At the end of the course the student will be able to:

CO	Course Outcomes
C208.1	Understand the basics of MATLAB for arithmetic computations and arrays
C208.2	Understand the simple plots and execute the script files
C208.3	Create program using symbolic computations, Importing and exporting data and files
C208.4	Create program using character strings, Command line functions and Built-in functions
C208.5	Apply the Language specific Features in MATLAB