

MAR GREGORIOS COLLEGE OF ARTS & SCIENCE

B.SC. ELECTRONICS AND COMMUNICATION SCIENCE

PROGRAMME SPECIFIC OUTCOMES

PSO1: Ability to apply knowledge of Mathematics & Science in solving electronics related problems. To understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life.

PSO2: To acquire skills in handling scientific instruments, planning and performing in laboratory experiments.

PSO3: To serve as the Programmers or the Software Engineers with the sound knowledge of practical and theoretical concepts for developing software.

PSO4: To develop the skills that enables the students to get employment in industries or pursue higher studies or research assignments or turn as entrepreneur

PSO5: To provide ability in students to design and develop innovative solutions for benefits of society, by leadership, team work and lifelong learning and ability to function as a member of a multidisciplinary team with sense of ethics, integrity and the social responsibility

COURSE OUTCOMES

COURSE NAME	COURSE OUT COMES
SEMESTER - I	
Circuit Theory	CO1.To understand the different types of Resistors & Capacitors, to simplify circuits using series & parallel equivalents of Resistors & Capacitors
	CO2.To understands different types of Inductors, Transformers & its practical applications.
	CO3.To solves simple circuits using ohm's law, Kirchhoff's laws and the properties of the elements.
	CO4.To Simplify circuits using series and parallel equivalents and using The venin and Norton equivalents
	CO5.To understands AC circuits with Resistors, Inductors & Capacitors.
SEMESTER- II	
	CO1.To understands the semiconductor diode & its applications as Half wave, Full wave & Bridge rectifiers.
	CO2.To understand different types of diodes & its practical applications

Electronic Devices	CO3.To understands the basics of Transistors & its applications as amplifier.
	CO4.To understand different types of Field Effect transistors & its applications
	CO5.To understands the characteristics & working of Power devices.
SEMESTER- III	
Analog Electronics	CO1. To familiarize the student with the analysis and design of basic transistor amplifier
	CO2. To understand the concepts of Multi Stage Amplifier.
	CO3.To studies the operation of Hartley, Colpitts, RC Phase shift, and crystal and wien bridge oscillators.
	CO4. To know the concepts of Multistage and feedback amplifier and their characteristics
	CO5. Design of circuits using Operational Amplifier and IC555.
Numerical Methods	CO1. To demonstrate the mathematical skills of the students in the area of Numerical methods
	CO2.To analyse the accuracy of common numerical methods
	CO3. Approach to categorize to solve the numerical problems
	CO4.To define the most appropriate numerical method far its solution
	CO5.To locates the method to correctly interpret the results.
Digital Electronics	CO1. Identify the structure of various number systems and its application in digital design
	CO2. To perform decimal, octal, hexadecimal and binary conversions
	CO3. To apply Boolean Algebra to solve the logic functions
	CO4. To implement simple logical operations using combination a land sequential logic circuits.
	CO5 To identify and differentiate digital electronics applications.
Basic Physics I	CO1. – To understand moment of inertia of different rotating bodies & the concept in Banking of curved tracks
	CO2. – To understand different constants of Elasticity & its practical applications
	CO3. – To determine & compare the viscosities , surface tensions & interfacial surface tension of different liquids, the behaviour of highly viscous liquids & its practical applications
	CO4.- To determine the thermal conductivity of Bad conductors, different laws of thermodynamics & its practical applications
	CO5.- To understand the concept of Acoustics of Buildings, Production & applications of Ultrasonics in different fields
SEMESTER- IV	
Principles Of Communication	CO1 To learn the basic principles of analog and digital communication system

	CO2 To familiarize the student with modulation techniques
	CO3 To recognize and understand common modulation schemes for continuous wave modulation including amplitude modulation, frequency modulation and phase modulation
	CO4 To recognize and understand common digital pulse modulation schemes including delta modulation and pulse-code modulation
	CO5 To understand the common analog pulse modulation schemes including pulse-amplitude modulation, pulse-width modulation and pulse-position modulation
Programming in C	CO1. To Implement programs using Functions. Pointers and Structures in C Language.
	CO2.Implementand perform Files operations
	CO3.Perform the C Program
	CO4.Identify and understand Array in C
	CO5.Identify the code for a given algorithm,
Microprocessor-Intel 8085	CO1. Understand the basic blocks of CPU Memory, I/O ,Pin function and Architecture
	CO2.Understanding the instruction set and analyze assembly level language program
	CO3. Design a memory map for memory mapped and I/O mapped I/O
	CO4.Comprehend study of various peripherals.
	CO5. To design simple I/O Interfaces
Basic Physics II	CO1. To understand the wave nature of light through Interference, Diffraction, the type of waves through Polarization & practical applications of polarized light.
	CO2.To understand the particle nature of light through Photoelectric effect, different nuclear models, Radioactivity & its applications, Nuclear reactions & its applications
	CO3.To understand the concept of different types of LASERS & its practical applications
	CO4.To understands the basics of Fiber optics & its application in Communication.
	CO5. To understand the concept of Fiber Optic sensors, its applications in different fields, Telecommunication, Computer networks & its advantages.
SEMESTER - V	
Microcontroller	CO1. To familiarize with different types of microcontroller
	CO2. To know 8051 microcontroller in detail
	CO3To learn programming and Interfacing with 8051 microcontroller
	CO4 To develop an in-depth understanding of the operation of microcontroller and interfacing techniques
	CO5 To understand and use various I/O devices such as keypads,

	stepper motor, A/D converter.
Electrical And Electronics Instrumentation	CO1: To know the performance of AC and DC Instruments used for measurement. CO2: To understand how the unknown quantities like resistance, capacitance etc. is measured using Bridges. CO3: Will come through the internal structure of the Oscilloscope and its functions and to know about the different types of Oscilloscopes available. CO4: To gain knowledge on various instruments used to analyze signals and also to know about the Instrumentation amplifier. CO5: To study the performance of various transducers and its applications
Antennas Theory And Radar System	CO1 To provide the basic knowledge about the fundamentals of antenna. CO2. To describe the electromagnetic radiation with application to antenna theory and design CO3 To makethestudentsunderstandtheradiowavepropagationphenomenainmoderncommunicationsystems CO4 To understand the applications of the electromagnetic waves in free space CO5. TounderstandtheadvancedtopicsindigitaltelevisionandHighdefinitiontelevision.
Industrial Electronics	CO1. To familiarize students to the principles of operations, design and Application of Thyristors CO2.Implement triggering mechanism CO3.Understand the basic operations of Inverters CO4. Understand the basic operations of Choppers CO5.Familiarize the Industrial application of LASER
SEMESTER- VI	
Computer Networks	CO1. To Understand the basic terminology of Computer Networks CO2.To know about transmission medium and protocols CO3. To learn the functioning of Data link layer of OSI Model. CO4. To sensitize students on Network layer and various Algorithms CO5. To understand the concepts of Internetworking Devices
Real Time Embedded System	CO1: To get familiarize with basics of Embedded system and Arduino and also its applications. CO2: To get complete knowledge of programming in Arduino for various applications. CO3: To understand the full history of Raspberry PI and its applications and also to run python programs.

	CO4: To facilitate the understanding of various data types in Python and also will get through loops, functions and motion detection using PI.
	CO5: To install and configure IOT using Arduino and Raspberry PI and its applications
Biomedical Instrumentation	CO1: to understand the generation of Bio electric potentials in the human body and various transducers for sensing the potentials.
	CO2: To get familiarize with the concepts of measurements of bio-potential recording and the electrodes used for picking up the signal.
	CO3: To gain knowledge on the measurement of various biological parameters and treatment process.
	CO4: To get thorough knowledge on various diagnostic equipments and biotelemetry devices.
	CO5: To familiarize the working of physiological assist devices used for diagnosis of various diseases.
Mobile Communication	CO1. To get an idea of early systems of exchanges speech digitization and Trans mission.
	CO2: To acquire knowledge on the functions of Cellular communication and its functions related to transmissions.
	CO3: Students can understand the entire functions related to GSM and also its access techniques.
	CO4: This unit helps in understanding the various concepts and services like TDMA, FDMA, Wi-Fi etc.
	CO5: They gain knowledge on the evolution of mobile technology and the spectrums related to mobile communication.