

Department of Electronics

Sri Y N College(Autonomous) – Narsapur

B.Sc. Programme with Electronics

PROGRAMME OUTCOMES:

The following Program Outcomes have been identified for B.Sc. Programme with Electronics

- PO1: Ability to apply knowledge of mathematics & science in solving electronics related problems
- PO2: Ability to design and conduct electronics experiments, as well as to analyze and interpret data
- PO3: Ability to design and manage electronic systems or processes that conforms to a given specification within ethical and economic constraints
- PO4: Ability to identify, formulate, solve and analyze the problems in various disciplines of electronics
- PO5: Ability to function as a member of a multidisciplinary team with sense of ethics, integrity and social responsibility
- PO6: Ability to communicate effectively in term of oral and written communication skills
- PO7: Recognize the need for, and be able to engage in lifelong learning
- PO8: Ability to use techniques, skills and modern technological/scientific/engineering software/tools for professional practices

PROGRAMME SPECIFIC OUTCOMES:

- PSO1: To prepare students to excel in postgraduate programs or to succeed in industry/technical profession through global and comprehensive education.
- PSO2: To provide students with a solid foundation in scientific and quantitative electronics fundamentals required to solve technical problems and also to pursue higher studies.
- PSO3: To train students with good technical and scientific breadth so as to comprehend, analyze, design and create novel products and solutions for real life problems.
- PSO4: To inculcate in students professional and ethical attitude, effective communication skills, teamwork skills, multidisciplinary approach and an ability to relate Science and engineering issues to broader social context.
- PSO5: To prepare student with an academic environment aware of excellence, leadership, written ethical codes and guidelines and the life-long learning needed for a successful professional career.

COURSE OUTCOMES:

Course Code	Course Name	Nature of the Course -Local/ National/ Regional / Global / developmental needs (write the correct option)	Course Outcomes (list of course outcomes using bullets)
ELC100	Basic Circuit Theory	Global	At the end of this course, Students will be able to <ul style="list-style-type: none">• CO1: Study basic circuit concepts in a systematic manner suitable for analysis and design.• CO2: Understand transient analysis.• CO3: Determine AC steady state response.• CO4: Analyze the electric circuit using network theorems.• CO5: Understand the two-port network parameters
ELC200	Electronic Devices & Circuits	Global	At the end of this course, Students will be able to <ul style="list-style-type: none">• CO1: Describe the behavior of semiconductor materials• CO2: Illustrate about rectifiers, transistor and FET amplifiers and its biasing. Also compare the Performances of its low frequency models.• CO3: Describe the frequency response of MOSFET and BJT amplifiers.• CO4: Explain the behavior and characteristics of power devices such as UJT.
ELC300	Analog Electronics & Digital Principles	Global	At the end of this course, Students will be able to <ul style="list-style-type: none">• CO1: Explain the concepts of feedback and construct feedback amplifiers and oscillators.

			<ul style="list-style-type: none"> • CO2: Summarizes the performance parameters of amplifiers with and without feedback. • CO3: Perform analysis of two stage R-C coupled Amplifier • CO4: Understand Op- Amp basics and its various applications. • CO5: Become familiar with number systems and codes, Logic Gates.
ELC400	Digital Electronics & Digital IC Applications	Global	<p>At the end of this course, Students will be able to</p> <ul style="list-style-type: none"> • CO1: Become familiar with Boolean Algebra Theorems. • CO2: Summarizes the performance parameters of amplifiers with and without feedback. • CO3: Understand the minimization techniques for designing a simplified logic circuit. • CO4: Design a half Adder, Full Adder, Half-Subtractor, Full-Subtractor. • CO5: Understand the working of Data processing circuits Multiplexers, Demultiplexers, Decoders, Encoders. • CO6: Become familiar with the working of flip-flop circuits, its working and applications.
ELC500	Microprocessor Programming & Applications	Global	<p>At the end of this course, Students will be able to</p> <ul style="list-style-type: none"> • CO1: Understand the basic blocks of microcomputers i.e. CPU, Memory, I/O and architecture of microprocessor 8085 • CO2: Apply knowledge and demonstrate proficiency of designing hardware interfaces for memory and I/O as well as write assembly language programs for target microprocessor 8085

			<ul style="list-style-type: none"> • CO3: Derive specifications of a system based on the requirements of the application and select the appropriate Microprocessor
ELC600	Electronic Communication Systems	Global	<p>At the end of this course, Students will be able to</p> <ul style="list-style-type: none"> • CO1: Understand the basic concept of a communication system and need for modulation. • CO2: Evaluate modulated signals in time and frequency domain for various continuous modulation techniques • CO3: Describe working of transmitters and receivers and effect of noise on a communication system. • CO4: Understand the basics of a digital communication system. • CO5: Understand the basics of an optical communication system. • CO6: Understand the working of satellite communication. • CO7: Understand the working of a cellular communication system.
ELC700	Microcontrollers & Interfacing	Global	<p>At the end of this course, Students will be able to</p> <ul style="list-style-type: none"> • CO1: Understand the architecture of a 8051 microcontroller.. • CO2: Write simple programs for 8051 microcontroller. • CO3: Understand key concepts of 8051 microcontroller systems like I/O operations, interrupts, programming of timers and counters

			<ul style="list-style-type: none"> • CO4: Interface 8051 microcontroller with peripherals. • CO5: In the laboratory, students will program 8051 microcontroller to perform various experiments.
ELC801	Embedded Systems Design	Global	<p>At the end of this course, Students will be able to</p> <ul style="list-style-type: none"> • CO1: Understand the concepts related to embedded systems and architecture of microcontrollers • CO2: Familiarize with serial bus standards. • CO3: Design systems for common applications like general I/O, counters, PWM motor control, data acquisition etc. • CO4: Familiarize with the programming environments used in robotics applications. • CO5: Understand the working of sensors, actuators and other components used in design and Implementation of robotics.
ELC802	Consumer Electronics	Global	<p>At the end of this course, Students will be able to</p> <ul style="list-style-type: none"> • CO1: Familiarization with various types of audio systems. • CO2: Familiarization with TV and video systems. • CO3: Familiarization with telephony and office equipment. • CO4: Familiarization with various domestic gadgets/appliances

ELC803	Power Electronics	Global	<p>At the end of this course, Students will be able to</p> <ul style="list-style-type: none"> • CO1: Explain the basic principles of switch mode power conversion, models of different types of power electronic converters including dc-dc converters, PWM rectifiers and inverters • CO2: Choose appropriate power converter topologies and design the power stage and feedback controllers for various applications They use power electronic simulation packages for analyzing and designing power converters • CO3: Describe the operation of electric machines, such as motors and their electronic controls. • CO4: Analyze the performance of electric machine
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