

# SCIENCE AND HUMANITIES COURSE OUTCOMES (REGULATION 2021)

#### SEMESTER I

Course Code / Course Name: HS3152/ Professional English - I

CO No.	Course Outcomes (COs)
C101.1	To use appropriate words in a professional context
C101.2	To gain understanding of basic grammatic structures and use them in right
	context.
C101.3	To read and infer the denotative and connotative meanings of technical texts
C101.4	To write definitions, descriptions, narrations and essays on various topics
C101.5	To speak fluently and accurately in formal and informal communicative contexts

#### Course Code / Course Name: MA3151/ Matrices and Calculus

CO No.	Course Outcomes (COs)
C102.1	Use the matrix algebra methods for solving practical problems.
C102.2	Apply differential calculus tools in solving various application problems.
C102.3	Able to use differential calculus ideas on several variable functions
C102.4	Apply different methods of integration in solving practical problems.
C102.5	Apply multiple integral ideas in solving areas, volumes and other practical
	problems.

#### Course Code / Course Name: PH3151 / Engineering Physics

CO No.	Course Outcomes (COs)
C103.1	Recognize the significance of mechanics
C103.2	Communicate their understanding of electromagnetic waves.
C103.3	Exhibit a solid basic understanding of lasers, optics, and oscillations.
C103.4	Recognize the significance of quantum mechanics.
C103.5	Understand and apply the laws of quantum mechanics to the creation of energy
	bands.

#### Course Code / Course Name: CY3151 / Engineering Chemistry

CO No.	Course Outcomes (COs)
C104.1	Infer the quality of water from quality parameter data and propose suitable
	treatment methodologies to treat water.

C104.2	Identify and apply basic concepts of nanoscience and nanotechnology in
	designing the synthesis of nanomaterials for engineering and technology
	applications.
C104.3	Apply the knowledge of phase rule and composites for material selection
	requirements.
C104.4	Recommend suitable fuels for engineering processes and applications.
C104.5	Recognize different forms of energy resources and apply them for suitable
	applications in energy sectors.

#### Course Code / Course Name: GE3151 / Problem Solving and Python Programming

CO No.	Course Outcomes (COs)
C105.1	Develop algorithmic solutions to simple computational problems.
C105.2	Develop and execute simple Python programs.
C105.3	Write simple Python programs using conditionals and loops for solving
	problems.
C105.4	Decompose a Python program into functions
C105.5	Represent compound data using Python lists, tuples, dictionaries etc. & Read and
	write data from/to files in Python programs.

#### Course Code / Course Name: GE3152 / தமிழர் மரபு/Heritage of Tamils

CO No.	Course Outcomes (COs)
C106.1	Understand knowledge about language and literature
C106.2	Roll of tamil people in Sculpture
C106.3	Roll of tamil people in folk arts and heroic sports
C106.4	To know the flora and fauna of Ancient Tamilnadu
C106.5	Understand the role of tamils in Indian independence Movement.

# **Course Code / Course Name:** GE3171 / Problem Solving and Python Programming Laboratory

CO No.	Course Outcomes (COs)
C107.1	Develop algorithmic solutions to simple computational problems
C107.2	Develop and execute simple Python programs.
C107.3	Implement programs in Python using conditionals and loops for solving problems.
C107.4	Deploy functions to decompose a Python program.
C107.5	Process compound data using Python data structures & Utilize Python packages in developing software applications.

#### Course Code / Course Name: BS3171 / Physics and Chemistry Laboratory

CO No.	Course Outcomes (COs)
C108.1	Understand the functioning of various physics laboratory equipment & Use
	graphical models to analyze laboratory data.
C108.2	Use mathematical models as a medium for quantitative reasoning and describing
	physical reality & Access, process and analyze scientific information.
C108.3	Solve problems individually and collaboratively. To analyse the quality of water
	samples with respect to their acidity, alkalinity, hardness and DO.

C108.4	Determine the amount of metal ions through volumetric and spectroscopic
	techniques & To analyse and determine the composition of alloys.
C108.5	Learn simple method of synthesis of nanoparticles & To quantitatively analyse
	the impurities in solution by electroanalytical techniques

### Course Code / Course Name: GE3172 / English Laboratory

CO No.	Course Outcomes (COs)
C109.1	To listen to and comprehend general as well as complex academic information
C109.2	To listen to and understand different points of view in a discussion
C109.3	To speak fluently and accurately in formal and informal communicative contexts
C109.4	To describe products and processes and explain their uses and purposes clearly and accurately
C109.5	To express their opinions effectively in both formal and informal discussions

#### SEMESTER II

#### Course Code / Course Name: HS3252 / Professional English - II

CO No.	Course Outcomes (COs)
C110.1	Compare and contrast products and ideas in technical texts.
C110.2	Identify and report cause and effects in events, industrial processes through technical texts
C110.3	Analyse problems in order to arrive at feasible solutions and communicate them in the written format.
C110.4	Present their ideas and opinions in a planned and logical manner
C110.5	Draft effective resumes in the context of job search.

### Course Code / Course Name: MA3251 / Statistics and Numerical Methods

CO No.	Course Outcomes (COs)
C111.1	Able to Understand the basic concepts of a few statistical methods and how to
	develop the null and alternative hypothesis for small and large samples in real
	life problems.
C111.2	Apply the basic concepts of classifications of design of experiments in the field
	of agriculture.
C111.3	Able to Understand the basic concepts and techniques of solving algebraic and
	transcendental equations and also Compute the eigen values of a matrix
	numerically
C111.4	Appreciate the numerical techniques of interpolation in various intervals and
	apply the numerical techniques of differentiation and integration in engineering
	problems.
C111.5	Understand the knowledge of various techniques and methods for solving first
	and second order ordinary differential equations with initial and boundary
	conditions.

#### Course Code / Course Name: PH3251 / Materials Science

CO No.	Course Outcomes (COs)
C112.1	Know basics of crystallography and its importance for varied materials
	properties
C112.2	Gain knowledge on the electrical and magnetic properties of materials and their
	applications.
C112.3	Understand clearly of semiconductor physics and functioning of semiconductor
	devices.
C112.4	Understand the optical properties of materials and working principles of various
	optical devices.
C112.5	Appreciate the importance of functional nanoelectronic devices.

#### Course Code / Course Name: PH3254 / Physics for Information Science

CO No.	Course Outcomes (COs)
C112.1	Gain knowledge on classical and quantum electron theories, and energy band
	structures.
C112.2	Acquire knowledge on basics of semiconductor physics and its applications in
	various devices.
C112.3	Get knowledge on magnetic properties of materials and their applications in data
	storage.
C112.4	Have the necessary understanding on the functioning of optical materials for
	optoelectronics.
C112.5	Understand the basics of quantum structures and their applications and basics of
	quantum computing.

#### Course Code / Course Name: PH3202 / Physics for Electrical Engineering

CO No.	Course Outcomes (COs)
C112.1	Explain the dielectric and insulation properties of materials and their
	applications.
C112.2	Demonstrate an understanding of the origin of electrical and magnetic properties
	in metal and semiconductors based on density of states and Fermi energy.
C112.3	Acquire knowledge on the basics of semiconductor physics and its applications
	in semiconducting devices.
C112.4	Understand the optical properties of materials and working principles of various
	optical devices.
C112.5	Demonstrate an understanding of nanostructures and their properties in nano
	electronic devices and spintronics.

#### Course Code / Course Name: PH3201 / Physics for Civil Engineering

CO No.	Course Outcomes (COs)
C112.1	Learn about heat transfer through various materials, thermal performance of
	buildings, thermal insulation, thermal comfort, and shading mechanisms.
C112.2	Acquire understanding of ventilation and elucidate the features of various air conditioning system types and their uses.
C112.3	Recognize the ideas behind lighting schemes, noise insulation, and sound
C112.3	absorption. Choose suitable building designs to address real-world noise issues
	and correct lighting without any discomfort in any scenario.

C112.4	Explain features, classification, and application of composites, metallic glasses,
	shape memory alloys and important ceramic systems.
C112.5	Describe occupational safety and hazards in the workplace and identify
	appropriate hazard controls.

#### Course Code / Course Name: PH3259 / Applied Materials Science

CO No.	Course Outcomes (COs)
C112.1	Know basics of crystallography and its importance for varied materials
	properties.
C112.2	Understand the properties of materials through the study of phase relationships.
C112.3	Gain knowledge on the electrical and magnetic properties of materials and their
	applications.
C112.4	Understand clearly of semiconductor physics and functioning of semiconductor
	devices.
C112.5	Understand the optical properties of materials and working principles of various
	optical devices.

## **Course Code / Course Name:** BE3253/ Basic Electrical, Electronics Engineering and Measurements

CO No.	Course Outcomes (COs)
C113.1	Able to understand and gain knowledge about circuit parameters for simple
	problems
C113.2	Able to understand the working principle of electrical machines
C113.3	Able to find characteristics of analog electronic devices
C113.4	Apply the basic concepts of linear integrated circuits
C113.5	Able to gain knowledge about principles of measuring instruments

# **Course Code / Course Name:** BE3252 / Basic Electrical, Electronics and Instrumentation Engineering

CO No.	Course Outcomes (COs)
C113.1	Compute the electric circuit parameters for simple problems.
C113.2	Explain the concepts of domestics wiring and protective devices
C113.3	Explain the working principle and applications of electrical machines
C113.4	Analyze the characteristics of analog electronic devices
C113.5	Explain the types and operating principles of sensors and transducers

#### Course Code / Course Name: BE3255 / Basic Civil and Mechanical Engineering

CO No.	Course Outcomes (COs)
C113.1	Understanding profession of Civil and Mechanical engineering.
C113.2	Summarise the planning of building, infrastructure and working of Machineries.
C113.3	Apply the knowledge gained in respective discipline
C113.4	Illustrate the ideas of Civil and Mechanical Engineering applications.
C113.5	Appraise the material, Structures, machines and energy.

#### Course Code / Course Name: BE3251 / Basic Electrical and Electronics Engineering

CO No.	Course Outcomes (COs)
C113.1	Compute the electric circuit parameters for simple problems
C113.2	Explain the working principle and applications of electrical machines
C113.3	Analyze the characteristics of analog electronic devices
C113.4	Explain the basic concepts of digital electronics
C113.5	Explain the operating principles of measuring instruments

#### Course Code / Course Name: BE3254 / Electrical and Instrumentation Engineering

CO No.	Course Outcomes (COs)
C113.1	Understand the working principle of electrical machines
C113.2	Understand and analyse the output characteristics of electrical machines
C113.3	Select the appropriate electrical machines for different applications.
C113.4	Discuss the types and operating principle of measuring instruments
C113.5	Discuss and elaborate the basic power system structure and protection schemes

#### Course Code / Course Name: GE3251 / Engineering Graphics

CO No.	Course Outcomes (COs)
C114.1	Understand the fundamentals and standards of Engineering graphics and perform
	basic geometrical constructions of Conic curves, Involutes and cycloids.
C114.2	Draw the orthographic projections of points, lines and plane surfaces in First
	angle projection and to find the true length and true inclination of the lines,
	planes.
C114.3	Draw projections of simple solids by rotating object method when their axis is
	inclined to any one principal planes and to draw orthographic projections of
	solids in free hand sketch.
C114.4	Create sections of simple solids when they are cut by cutting planes in different
	positions and to develop surface of simple solid objects with and without cut outs
	in them.
C114.5	Visualize and draw isometric views and projections of simple objects and to
	prepare perspective projections of objects by visual ray method.

## Course Code / Course Name: GE3252 / தமிழரும் தொழில்நுட்பமும் /

#### Tamils and Technology

CO No.	Course Outcomes (COs)
C115.1	Understand the knowledge about weaving and ceramic technology of sangam
	age.
C115.2	Understand the knowledge about design and construction Technology in
	sangam.
C115.3	Role of Tamils in Manufacturing Technology
C115.4	Knowledge about agriculture and irrigation technology during sangam age.
C115.5	Understand the development of scientific tamil & Tamil computing.

#### Course Code / Course Name: GE3271 / Engineering Practices Laboratory

CO No.	Course Outcomes (COs)
C116.1	Apply the knowledge of pipeline connections to household fittings and industrial
	buildings.
C116.2	Prepare the different joints in roofs, doors, windows and furniture.
C116.3	Weld various joints in steel plates using arc welding work; Machine various
	simple processes like turning, drilling, tapping in parts; Assemble simple
	mechanical assembly of common household equipments; Make a tray out of
	metal sheet using sheet metal work.
C116.4	Connect different electrical junctions in typical household wiring.
C116.5	Solder and test basic electronic circuits, as well as assemble and test simple
	electronic components on PCBs.

# **Course Code / Course Name:** BE3273 / Basic Electrical, Electronics Engineering and Measurements Laboratory

CO No.	Course Outcomes (COs)
C117.1	Ability to conduct load tests on electrical machines and evaluate their
	performance characteristics under varying conditions.
C117.2	Proficiency in characterizing electronic devices such as diodes, transistors, and
	MOSFETs, and interpreting their operational parameters.
C117.3	Capability to utilize Digital Storage Oscilloscopes (DSO) for accurate
	measurement and analysis of electrical signals.
C117.4	Demonstrate hands-on skills in setting up experimental setups for testing
	electrical machines and electronic devices.
C117.5	Apply theoretical knowledge to troubleshoot, analyze, and optimize the
	performance of electrical and electronic systems in practical scenarios.

# **Course Code / Course Name:** BE3272 / Basic Electrical, Electronics and Instrumentation Engineering Laboratory

CO No.	Course Outcomes (COs)
C117.1	Apply basic electrical laws, such as Ohm's Law and Kirchhoff's Laws, to analyze
	and verify the behavior of electrical circuits.
C117.2	Conduct load tests on DC machines, transformers, and induction motors to
	evaluate their performance and efficiency under various operating conditions.
C117.3	Analyze the characteristics of semiconductor devices, including PN diodes,
	Zener diodes, BJT, SCR, and MOSFET, and interpret their performance.
C117.4	Design and analyze rectifier circuits, including half-wave and full-wave
	rectifiers, to study their operational parameters such as efficiency and ripple
	factor.
C117.5	Utilize measurement tools, such as LVDTs and wattmeters, to accurately
	measure displacement and power in electrical and electromechanical systems.

## **Course Code / Course Name:** BE3271 / Basic Electrical and Electronics Engineering Laboratory

CO No.	Course Outcomes (COs)
C117.1	Verifying Ohm's and Kirchhoff's law using experimental methods.
C117.2	Understand and analyse experimentally about the load characteristics of electrical machines.

C117.3	Understand and analyse the characteristics of basic electronics devices.
C117.4	Measure different parameters using DSO.
C117.5	Analyze the characteristics of half wave and full wave rectifier.

#### Course Code / Course Name: GE3272 / Communication Laboratory / Foreign Language

CO No.	Course Outcomes (COs)
C118.1	Speak effectively in group discussions held in a formal/semi-formal contexts.
C118.2	Discuss, analyse and present concepts and problems from various perspectives
	to arrive at suitable solutions
C118.3	Write emails, letters and effective job applications.
C118.4	Write critical reports to convey data and information with clarity and precision
C118.5	Give appropriate instructions and recommendations for safe execution of tasks

# **EEE Course Code / Course Name:** EE3251 / Electric Circuit Analysis

CO No.	Course Outcomes (COs)
C115.1	Able to understand the basic concepts of circuits and their behavior using circuit
	laws
C115.2	Able to find the behavior of the DC and AC circuits by applying mesh and nodal
	analysis
C115.3	Able to calculate the transient response of first and second order systems.
C115.4	Able to calculate power,line/phase voltage and currents of the given three phase
	circuit
C115.5	Able to gain knowledge about the frequency response of series and parallel RLC
	circuits

## Course Code / Course Name: GE3252 / தமிழரும் தொழில்நுட்பமும் /

#### Tamils and Technology

CO No.	Course Outcomes (COs)
C116.1	Understand the knowledge about weaving and ceramic technology of sangam
	age.
C116.2	Understand the knowledge about design and construction Technology in sangam.
C116.3	Role of Tamils in Manufacturing Technology
C116.4	Knowledge about agriculture and irrigation technology during sangam age.
C116.5	Understand the development of scientific tamil & Tamil computing.

#### Course Code / Course Name: GE3271 / Engineering Practices Laboratory

CO No.	Course Outcomes (COs)
C117.1	Apply the knowledge of pipeline connections to household fittings and industrial
	buildings.
C117.2	Prepare the different joints in roofs, doors, windows and furniture.
C117.3	Weld various joints in steel plates using arc welding work; Machine various
	simple processes like turning, drilling, tapping in parts; Assemble simple
	mechanical assembly of common household equipments; Make a tray out of
	metal sheet using sheet metal work.

C117.4	Connect different electrical junctions in typical household wiring.
C117.5	Solder and test basic electronic circuits, as well as assemble and test simple
	electronic components on PCBs.

#### Course Code / Course Name: EE3271 / Electric Circuits Laboratory

CO No.	Course Outcomes (COs)
C118.1	Able to understand the fundamental laws of DC and AC circuit by using
	experimental verification and systematic approach
C118.2	Able to apply various electrical theorems by using experimental and systematic
	approach
C118.3	Able to understand the behavior of the RL/RC/RLC circuit using systematic
	approach and experimental methods
C118.4	Able to find the frequency response of series and parallel RLC circuit using
	systematic approach and experimental methods
C118.5	Able to analyze the performance of three phase circuit by using systematic and
	experimental methods

#### Course Code / Course Name: GE3272 / Communication Laboratory / Foreign Language

CO No.	Course Outcomes (COs)
C119.1	Speak effectively in group discussions held in a formal/semi-formal contexts.
C119.2	Discuss, analyse and present concepts and problems from various perspectives
	to arrive at suitable solutions
C119.3	Write emails, letters and effective job applications.
C119.4	Write critical reports to convey data and information with clarity and precision
C119.5	Give appropriate instructions and recommendations for safe execution of tasks

# CSE Course Code / Course Name: CS3251 / Programming in C

CO No.	Course Outcomes (COs)
C115.1	Demonstrate knowledge on C Programming constructs
C115.2	Develop simple applications in C using basic constructs
C115.3	Design and implement applications using arrays and strings
C115.4	Develop and implement modular applications in C using functions.
C115.5	Develop applications in C using structures and pointers. & Design applications
	using sequential and random access file processing.

## Course Code / Course Name: GE3252 / தமிழரும் தொழில்நுட்பமும் /

#### Tamils and Technology

CO No.	Course Outcomes (COs)
C116.1	Understand the knowledge about weaving and ceramic technology of sangam
	age.
C116.2	Understand the knowledge about design and construction Technology in sangam.
C116.3	Role of Tamils in Manufacturing Technology
C116.4	Knowledge about agriculture and irrigation technology during sangam age.
C116.5	Understand the development of scientific tamil & Tamil computing.

#### Course Code / Course Name: GE3271 / Engineering Practices Laboratory

CO No.	Course Outcomes (COs)
C117.1	Apply the knowledge of pipeline connections to household fittings and industrial
	buildings.
C117.2	Prepare the different joints in roofs, doors, windows and furniture.
C117.3	Weld various joints in steel plates using arc welding work; Machine various
	simple processes like turning, drilling, tapping in parts; Assemble simple
	mechanical assembly of common household equipments; Make a tray out of
	metal sheet using sheet metal work.
C117.4	Connect different electrical junctions in typical household wiring.
C117.5	Solder and test basic electronic circuits, as well as assemble and test simple
	electronic components on PCBs.

#### Course Code / Course Name: CS3271 / Programming in C Laboratory

CO No.	Course Outcomes (COs)
C118.1	Demonstrate knowledge on C programming constructs.
C118.2	Develop programs in C using basic constructs.
C118.3	Develop programs in C using arrays & Develop applications in C using strings,
	pointers, functions.
C118.4	Develop applications in C using structures.
C118.5	Develop applications in C using file processing.

#### Course Code / Course Name: GE3272 / Communication Laboratory / Foreign Language

CO No.	Course Outcomes (COs)
C119.1	Speak effectively in group discussions held in a formal/semi-formal contexts.
C119.2	Discuss, analyse and present concepts and problems from various perspectives
	to arrive at suitable solutions
C119.3	Write emails, letters and effective job applications.
C119.4	Write critical reports to convey data and information with clarity and precision
C119.5	Give appropriate instructions and recommendations for safe execution of tasks

#### AI&DS & CSBS

#### Course Code / Course Name: AD3251 / Data Structures Design

CO No.	Course Outcomes (COs)
C115.1	Understand the concepts of Abstract Data Types (ADT) and its implementation
	in programming. They can able to understand the concepts of Object Oriented
	programming involving abstract data types and notations applied to the
	algorithms.
C115.2	Design, implement, and analyse linear data structures such as lists, queues and
	stacks. They can able to relate various types of linked list and its necessity in
	applying for specific application. Students can understand the abstract data types
	and able to do programming involving it.
C115.3	Understand various hashing, sorting and searching algorithms. They can able to
	calculate the time and space complexity of each method and do performance
	analysis among different types of sorting and searching methods.

C115.4	Design, implement and analyse efficient tree structures to meet requirements of
	basic operations such as searching, indexing, and sorting. They can able to
	understand the organization of data in tree structure and their efficiency in
	accessing and manipulation of data.
C115.5	Analyse and relate real world problems as graph problems and implement
	efficient graph algorithms to solve the problems. The measures involves minimal
	cost of finding optimal solution.

## Course Code / Course Name: GE3252 / தமிழரும் தொழில்நுட்பமும் /

Tamils and Technology

CO No.	Course Outcomes (COs)
C116.1	Understand the knowledge about weaving and ceramic technology of sangam
	age.
C116.2	Understand the knowledge about design and construction Technology in
	sangam.
C116.3	Role of Tamils in Manufacturing Technology
C116.4	Knowledge about agriculture and irrigation technology during sangam age.
C116.5	Understand the development of scientific tamil & Tamil computing.

#### Course Code / Course Name: GE3271 / Engineering Practices Laboratory

CO No.	Course Outcomes (COs)
C117.1	Apply the knowledge of pipeline connections to household fittings and industrial
	buildings.
C117.2	Prepare the different joints in roofs, doors, windows and furniture.
C117.3	Weld various joints in steel plates using arc welding work; Machine various
	simple processes like turning, drilling, tapping in parts; Assemble simple
	mechanical assembly of common household equipments; Make a tray out of
	metal sheet using sheet metal work.
C117.4	Connect different electrical junctions in typical household wiring.
C117.5	Solder and test basic electronic circuits, as well as assemble and test simple
	electronic components on PCBs.

#### Course Code / Course Name: AD3271 / Data Structures Design Laboratory

CO No.	Course Outcomes (COs)
C118.1	Understand the concepts of Abstract Data Types (ADT) and its implementation
	in programming. They can able to understand the concepts of Object Oriented
	programming involving abstract data types and notations applied to the
	algorithms.
C118.2	Design, implement, and analyse linear data structures such as lists, queues and
	stacks. They can able to relate various types of linked list and its necessity in
	applying for specific application. Students can understand the abstract data types
	and able to do programming involving it.
C118.3	Understand various hashing, sorting and searching algorithms. They can able to
	calculate the time and space complexity of each method and do performance
	analysis among different types of sorting and searching methods.
C118.4	Design, implement and analyse efficient tree structures to meet requirements of
	basic operations such as searching, indexing, and sorting. They can able to

	understand the organization of data in tree structure and their efficiency in
	accessing and manipulation of data.
C118.5	Analyse and relate real world problems as graph problems and implement
	efficient graph algorithms to solve the problems. The measures involves minimal
	cost of finding optimal solution.

#### Course Code / Course Name: GE3272 / Communication Laboratory / Foreign Language

CO No.	Course Outcomes (COs)
C119.1	Speak effectively in group discussions held in a formal/semi-formal contexts.
C119.2	Discuss, analyse and present concepts and problems from various perspectives
	to arrive at suitable solutions.
C119.3	Write emails, letters and effective job applications.
C119.4	Write critical reports to convey data and information with clarity and precision.
C119.5	Give appropriate instructions and recommendations for safe execution of tasks.

# ECE Course Code / Course Name: EC3251 / Circuit Analysis

CO No.	Course Outcomes (COs)
C115.1	Apply the basic concepts of circuit analysis such as Kirchoff's laws, mesh
	current and node voltage method for analysis of DC and AC circuits.
C115.2	Apply suitable network theorems and analyze AC and DC circuits
C115.3	Analyze steady state response of any R, L and C circuits
C115.4	Analyze the transient response for any RC, RL and RLC circuits and frequency
	response of parallel and series resonance circuits
C115.5	Analyze the coupled circuits and network topologies

### Course Code / Course Name: GE3252 / தமிழரும் தொழில்நுட்பமும் /

#### Tamils and Technology

CO No.	Course Outcomes (COs)
C116.1	Understand the knowledge about weaving and ceramic technology of sangam
	age.
C116.2	Understand the knowledge about design and construction Technology in sangam.
C116.3	Role of Tamils in Manufacturing Technology
C116.4	Knowledge about agriculture and irrigation technology during sangam age.
C116.5	Understand the development of scientific tamil & Tamil computing.

#### Course Code / Course Name: GE3271 / Engineering Practices Laboratory

CO No.	Course Outcomes (COs)
C117.1	Apply the knowledge of pipeline connections to household fittings and industrial
	buildings.
C117.2	Prepare the different joints in roofs, doors, windows and furniture.
C117.3	Weld various joints in steel plates using arc welding work; Machine various
	simple processes like turning, drilling, tapping in parts; Assemble simple
	mechanical assembly of common household equipments; Make a tray out of
	metal sheet using sheet metal work.

C117.4	Connect different electrical junctions in typical household wiring.
C117.5	Solder and test basic electronic circuits, as well as assemble and test simple
	electronic components on PCBs.

#### Course Code / Course Name: EC3271 / Circuits Analysis Laboratory

CO No.	Course Outcomes (COs)
C118.1	Apply Kirchhoff voltage law and Kirchhoff current law to solve practical
	engineering problems
C118.2	Verify Thevenin's and Norton's theorems through practical experimentation and
	mathematical analysis
C118.3	Utilize experimental setups and mathematical analysis to validate the principles
	of superposition theorem, enabling the decomposition of complex circuits into
	simpler components for systematic analysis.
C118.4	Determine theoretical principles and practical measurements to ascertain the
	resonance frequency of series and parallel RLC circuits
C118.5	Analyze the transient response of RL and RC circuits through mathematical
	modelling and simulation, facilitating the prediction of circuit behaviour during
	transient conditions such as charging and discharging.

#### Course Code / Course Name: GE3272 / Communication Laboratory / Foreign Language

CO No.	Course Outcomes (COs)
C119.1	Speak effectively in group discussions held in a formal/semi-formal contexts.
C119.2	Discuss, analyse and present concepts and problems from various perspectives
	to arrive at suitable solutions
C119.3	Write emails, letters and effective job applications.
C119.4	Write critical reports to convey data and information with clarity and precision
C119.5	Give appropriate instructions and recommendations for safe execution of tasks