Department of Mechatronics Engineering

Regulation 2021

S.NO	COURSE NAME		COURSE OUT COMES
1	C101 – Professional English - I	C101.1	Apply Elements of Communication to LSRW on Self Introduction and Introduction of others
		C101.2	Comprehend complex academic texts for narrating personal experiences and events
		C101.3	Describe non verbal processes and products transferring into verbal texts
		C101.4	Make notes to prepare Reports, Essays and Minutes
		C101.5	Infer denotative and connotative meanings of technical words to write descriptive and narrative essays
2	C102 – Matrices and Calculus	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	Make use of different integration methods in solving practical problems.
		C102.5	Utilize multiple integral ideas in solving areas, volumes and other practical problems.
3	C103 - Engineering Physics	C103.1	Explain the basic concepts of multi particle dynamics and non-linear oscillations.
		C103.2	Illustrate and Interpret the propagation of electromagnetic waves in various media.
		C103.3	Demonstrate a strong fundamental knowledge in oscillation, optics and Lasers.
		C103.4	Explain the basics of quantum mechanics to determine the motion of electrons and its probabilities.
		C103.5	Comprehend and apply Quantum Mechanic principles towards the formation of energy bands.
	C104 - En	C104.1	Explain the types of water and water treatment techniques

4		C104.2	Demonstrate the basic principle of Nanotechnology and preparatory methods of nanomaterials
		C104.3	Apply the knowledge of phase rule and describe the components of composites
		C104.4	Explain the types of fuels and the manufacturing of secondary fuels
		C104.5	Illustrate the types of energy resources
5	C105 – Problem Solving & Python Programming	C105.1	Define algorithmic solutions to computational problems
		C105.2	Demonstrate simple python programs for expressions and statements
		C105.3	Develop python programs using conditional, loop and functions
		C105.4	Construct compound data type using lists, tuples and dictionaries.
		C105.5	Experiment the files in python programming
6	C106 – Heritage in Tamil	C106.1	Brief the significance and contributions of Tamil language and literature
		C106.2	Comprehend the heritage of Tamil through Rock paintings and Sculpture
		C106.3	Identify the folks and martial arts of Tamil people
		C106.4	Brief the concepts of Thinai in Tamil
		C106.5	Explain the contributions of Tamil People to Indian national movement and Indian Culture
7	C107 – Problem Solving & Python Programming Lab	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, loops and functions for solving problems.
		C107.4	Process compound data using python data structures

		C107.5	Utilize python packages in developing software applications
8	C108 – Physics Chemistry Laboratory	C108.1	Analyze the modulus of elasticity of different types of materials
		C108.2	Demonstrate the concepts of laser diffraction and fiber optics
		C108.3	Apply interference pattern to determine the thickness of thin material
		C108.4	Determine the velocity of ultrasonic waves in liquid
		C108.5	Apply instrumentation method to determine the strength of the given solution
		C108.6	Apply volumetric analysis method to estimate hardness, alkalinity, chloride, copper content present in a given solution
9	C109 – English Laboratory	C109.1	Listen and respond appropriately
		C109.2	Describe personal experiences , requirements and abilities
		C109.3	Make an effective presentation on products and processes
		C109.4	Communicate with appropriate communicative strategies.
		C109.5	Participate in group discussion or debates
10	C110 – Professional English - II	C110.1	Compare and Contrast products and ideas in technical texts.
		C110.2	Identify cause and effect in longer text for technical communication
		C110.3	Analyze problems in order to ensue solutions in oral and written professional communication
		C110.4	Make oral and written Report of Events and Technical process
		C110.5	Create job applications and resume
11	C 111 – Statistics and Numerical Methods	C111.1	Apply the concept of testing of 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	Appreciate the numerical of techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems
		C111.4	Comprehend various techniques and solving first and second order ordinary differential equation

		C111.5	Solve the partial and ordinary differential equation with initial and boundary condition by using certain technique with engineering applications
12	C 112 – Applied Materials Science	C112.1	Explain crystallography and its importance for various materials properties.
		C112.2	Explain the properties of materials through the study of phase relationships
		C112.3	Illustrate the electrical and magnetic properties of materials and their applications
		C112.4	Comprehend semiconductor physics and functioning of semiconductor devices
		C112.5	Illustrate the optical properties of materials and working principles of various optical devices.
13	C113 – Basic Electrical and Electronics Engineering Measurements	C113.1	Compute the electric circuit parameters for simple problems
		C113.2	Explain the working principle and applications of electrical machine
		C113.3	Analyze the characteristic of analog electric devices
		C113.4	Explain the basic concepts of digital electronics
		C113.5	Explain the operating principles of measuring instruments
14	C114 – Engineering Graphics	C114.1	Use Bis Conventions and specifications for engineering drawing
		C114.2	Construct the conic curves, involutes and cycloid
		C114.3	Solve practical problems involving projection of lines
		C114.4	Draw the orthographic, isometric and perspective projections of simple solids
		C114.5	Draw the development of simple solids
15	C115 - Tamils and Technology	C115.1	Explain about the weaving and ceramic technology of Tamil people
		C115.2	Explain the traditional design and construction of Tamil people
		C115.3	Explain the manufacturing technology practiced by tamils
		C115.4	Comprehend and brief about the tamil agriculture and irrigation technology of tamil people

		C115.5	Brief about the tamil virtual academy and digital library.
16	C116 – Engineering Practices Lab	C116.1	Draw pipe line plan: lay and connect various pipe fittings used in common house hold plumbing work. Saw, Plan, make joints in wood materials used in common house hold wood work.
		C116.2	Wire various electrical joints in common household electrical wire work
		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 house hold equipments; make a tray out of metal sheet using sheet metal work
		C116.4	Solder and test simple electronic circuits; assemble and test simple electronic components on PCB
17	C117 – Basic Electrical Electronics Engineering and Measurement Laboratory	C117.1	Use experimental methods to verify the Ohm's and Kirchhoff's Laws.
		C117.2	Analyze experimentally the load characteristics of electrical machines
		C117.3	Analyze the characteristics of basic electronic devices
		C117.4	Use DSO to measure the various parameters
18	C118 – Communication Laboratory	C118.1	Speak effectively in group discussions held in formal/semi formal contexts.
		C118.2	Write emails and effective job applications