Mar Baselios Christian College of Engineering and Technology
Department of Electrical and Electronics Engineering
2019-2023 BATCH

Semester	Course Code KTU	Name of the Course	Course Outcome Statement	Program Outcomes (Enter corelation Levels 1(Low), 2(Moderate) and 3 (High)													
				PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO 2
I	MAT101	LINEAR ALGEBRA AND CALCULUS	Solve systems of linear equations, diagonalize matrices and characterise quadratic forms	3	3	3	3	2	1	-	-	1	2	-	2	-	-
			Compute the partial and total derivatives and maxima and minima of multivariable functions	3	3	3	3	2	1	-	-	1	2	-	2	-	-
			Compute multiple integrals and apply them to find areas and volumes of geometrical shapes, mass and centre of gravity of plane laminas	3	3	3	3	2	1	-	-	1	2	-	2	-	-
			Perform various tests to determine whether a given series is convergent, absolutely convergent or conditionally convergent	3	2	3	2	1	1	-	-	1	2	-	2	-	-
			Determine the Taylor and Fourier series expansion of functions and learn their applications.	3	3	3	3	2	1	-	-	1	2	-	2	-	-
I	PHT100	ENGINEERING PHYSICS A	Compute the quantitative aspects of waves and oscillations in engineering systems.	3	2	-	-	-	-	-	1	2	-	-	1	-	-
			Apply the interaction of light with matter through interference, diffraction and identify these phenomena in different natural optical processes and optical instruments.	3	2	-	-	-	-	-	1	2	-	-	1	-	-
			Analyze the behaviour of matter in the atomic and subatomic level through the principles of quantum mechanics to perceive the microscopic processes in electronic devices.	3	2	-	-	-	-	-	1	2	-	-	1	-	-
			Classify the properties of magnetic materials and apply vector calculus to static magnetic fields and use Maxwell's equations to diverse engineering problems	3	1	-	-	-	-	-	1	2	-	-	1	-	-
			Analyze the principles behind various superconducting applications, explain the working of solid state lighting devices and fibre optic communication system	3	1	-	-	-	-	-	1	2	-	-	1	-	-
I	EST100	ENGINEERING MECHANICS	Recall principles and theorems related to rigid body mechanics	2	2	-	-	-	-	-	-	-	-	-	-	-	-
			Identify and describe the components of system of forces acting on the rigid body	3	3	-	-	-	-	-	-	-	-	-	-	-	-
			Apply the conditions of equilibrium to various practical problems involving different force system.	3	3	-	-	-	-	-	-	-	-	-	-	-	-
			Choose appropriate theorems, principles or formulae to solve problems of mechanics.	3	3	-	-	-	-	-	-	-	-	-	-	-	-
			Solve problems involving rigid bodies, applying the properties of distributed areas and masses	3	3	-	-	-	-	-	-	-	-	-	-	-	-
I	HUN 101	LIFE SKILLS	Define and Identify different life skills required in personal and professional life	-	-	-	-	-	-	-	-	-	2	1	3	-	-
			Develop an awareness of the self and apply well-defined techniques to cope with emotions and stress.	-	-	-	-	-	-	-	-	3	-	-	2		-
			Explain the basic mechanics of effective communication and demonstrate these through presentations.	-	-	-	-	-	1	-	-	1	3	-	-	-	-
			Take part in group discussions	-	-	-	-	-	-	-	-	-	3	-	1	-	-
			Use appropriate thinking and problem solving techniques to solve new problems	-	3	2	1	-	-	-	-	-	-	-	-	-	-
			Understand the basics of teamwork and leadership	-	-	-	-	-	1	-	-	3	-	-	-	-	-

I	PHL 120	ENGINEERING PHYSICS LAB	Develop analytical/experimental skills and impart prerequisite hands on experience for engineering laboratories	3	-	-	-	3	-	-	1	2	-	-	-	-	1
			Understand the need for precise measurement practices for data recording	3	-	-	-	3	-	-	1	2	-	-	-	-	1
			Understand the principle, concept, working and applications of relevant technologies and comparison of results with theoretical calculations	3	-	-	-	3	-	-	1	2	-	-	-	-	1
			Analyze the techniques and skills associated with modern scientific tools such as lasers and fiber optics	3	-	-	-	3	-	-	1	2	-	-	-	-	1
			Develop basic communication skills through working in groups in performing the laboratory experiments and by interpreting the results	3	-	-	-	3	-	-	1	2	-	-	-	-	1
I	EST 120	BASICS OF CIVIL & MECHANICAL ENGINEERING	Recall the role of civil engineer in society and to relate the various disciplines of Civil Engineering.	3	-	-	-		3	2	2	-	-				
			Explain different types of buildings, building components, building materials and building construction	3	3	-	1	3	-	-	3	-	-				
			Describe the importance, objectives and principles of surveying	3	3	-	-	3	-	-	-	2	-				
			Summarise the basic infrastructure services MEP, HVAC, elevators, escalators and ramps	3	3	-	-	3	-	-	-	2	-				
			Discuss the Materials, energy systems, water management and environment for green buildings.	3	3	-	-	3	2	3	-	2	-				
			Analyse thermodynamic cycles and calculate its efficiency	3	3	-	-	-	-	-	-	-	-				
			Illustrate the working and features of IC Engines	3	1	-	-	-	-	-	-	-					
			Explain the basic principles of Refrigeration and Air Conditioning	3	1	-											
			Describe the working of hydraulic machines	3	2	-											
			Explain the working of power transmission elements	3	1	-											
			Describe the basic manufacturing, metal joining and machining processes	3	-	-	-	-	-	-	-	-	-	-	-	-	
I	ESL 120	CIVIL & MECHANICAL WORKSHOP	Name different devices and tools used for civil engineering measurements	1	-	-	-	1	1	-	-	2	2	-	-		-
			Explain the use of various tools and devices for various field measurements	1	-	-		1	1	-	-	2	2	-	-	-	-
			Demonstrate the steps involved in basic civil engineering activities like plot measurement, setting out operation, evaluating the natural profile of land, plumbing and undertaking simple construction work.	1	-		-	1	1	-	2	2	2	-	1	-	-
			Choose materials and methods required for basic civil engineering activities like field measurements, masonry work and plumbing	1	-	-	-	1	1		2	2	2	-	1	-	1
			Compare different techniques and devices used in civil engineering measurements	1	-	-	-	1	1	-	-	2	2	-	-	-	1
			Identify Basic Mechanical workshop operations in accordance with the material and objects	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			Apply appropriate Tools and Instruments with respect to the mechanical workshop trades	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			Apply appropriate safety measures with respect to the mechanical workshop trades	2	-	-	1	-	-	-	-	-	-	-	-	-	-
II	MAT 102	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	Compute the derivatives and line integrals of vector functions and learn their applications	3	3	3	3	2	1	-	-	1	2	-	2	-	-
			Evaluate surface and volume integrals and learn their inter-relations and applications	3	3	3	3	2	1	-	-	1	2	-	2	-	-
			Solve homogeneous and non-homogeneous linear differential equation with constant coefficients	3	3	3	3	2	1	-	-	1	2	-	2	-	-
			Compute Laplace transform and apply them to solve ODEs arising in engineering	3	3	3	3	2	1	-	-	1	2	-	2	-	-
			Determine the Fourier transforms of functions and apply them to solve problems arising in engineering	3	3	3	3	2	1	-	-	1	2	-	2	-	-
II	CYT 100	ENGINEERING CHEMISTRY	Apply the basic concepts of electrochemistry and corrosion to explore its possible applications in various engineering fields.	1	2	1	-	-	-	-	-	-	-	-	-	-	-
			Understand various spectroscopic techniques like UV-Visible, IR, NMR and its applications	1	1	-	1	2	-	-	-	-	-	-	-	-	-
			Apply the knowledge of analytical method for characterizing a chemical mixture or a compound. Understand the basic concept of SEM for surface characterisation of nanomaterials.	1	1	-	1	2	-	-	-	-	-	-	-	-	-
			Learn about the basics of stereochemistry and its application. Apply the knowledge of conducting polymers and advanced polymers in engineering.	2	1	-	-	-	-	-	-	-	-	-	-	-	-
			Study various types of water treatment methods to develop skills for treating wastewater.	1	-	-	1	-	-	3	-	-	-	-	-	-	-
II	EST 110	ENGINEERING GRAPHICS	Draw the projection of points and lines located in different quadrants	3	-	-	-	-	-		-	-	-	-	-	-	-
			Prepare multiview orthographic projections of objects by visualizing them in different positions	3	-	-	-	-	-		-	-	-	-	-	-	-
			Draw sectional views and develop surfaces of a given object	3	1	-	-	-	-	-	-	-	-	-	-	-	-
			Prepare pictorial drawings using the principles of isometric and perspective projections to visualize objects in three dimensions.	3	-	-	-	-	-	-	-	-	1	-	-	-	-
			Convert 3D views to orthographic views	3	-	-	-	-	-	-	-	-	2	-	-	-	-
			Obtain multiview projections and solid models of objects using CAD tools	3				3			-	-	3	-			
II	EST 130	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING	Apply fundamental concepts and circuit laws to solve simple DC electric circuits	3	1	-	-	-	-	-	-	-		-	2	1	1
			Develop and solve models of magnetic circuits	3	1	-	-	-	-	-	-	-		-	2	1	1
			Apply the fundamental laws of electrical engineering to solve simple ac circuits in steady state	3	1		-	-	-	-	-	-		-	2	1	1
			Describe working of a voltage amplifier	2	-	-	-	-	-	-	-	-		-		1	1
			Outline the principle of an electronic instrumentation system	2	-	-	-	-	-	-	-	-		-	2	1	1
			Explain the principle of radio and cellular communication	2	-	-	-	-	-	-	-	-		-	2	1	1
		NAL ATION	Develop vocabulary and language skills relevant to engineering as a profession	-	-	-	-		-	-	-	-	3	-	2	-	-
			Analyze, interpret and effectively summarize a variety of textual content	-	-	-	-	-	-	-	-	-	1	-	3	-	-
			Create effective technical presentations	-	-	-	-	-	1	-	-	1	3	-		-	-

II	HUN 102	PROFESSIONAL COMMUNICA	Discuss a given technical/non-technical topic in a group setting and arrive at generalizations/consensus	-	-	-	-	-		-			3	-	1	-	-
			Identify drawbacks in listening patterns and apply listening techniques for specific needs	-	1	-		-		-		2	3	-	-	-	-
			Create professional and technical documents that are clear and adhering to all the necessary conventions	1	-	-	-	-	1	-		1	3	-	-	-	-
II	EST 102	PROGRAMING IN C	Analyze a computational problem and develop an algorithm/flowchart to find its solution	2	-	-				-			-	-	-	-	-
			Develop readable* C programs with branching and looping statements, which uses Arithmetic, Logical, Relational or Bitwise operators	2	3	-	1	-	2	-		2	-	-	-	-	-
			Write readable C programs with arrays, structure or union for storing the data to be processed	2	3	-	1	-	2	-			-	-	-	-	-
			Divide a given computational problem into a number of modules and develop a readable multi-function C program by using recursion if required, to find the solution to the computational problem	2	3	-	1	-	2	-	1	2	-	-	-	-	-
			Write readable C programs which use pointers for array processing and parameter passing	1	2	-	1	-		-	1		-	-	-	-	-
			Develop readable C programs with files for reading input and storing output	1	2	-	1	-	2	-	-	2	-	-	-	-	-
II	CYL 120	ENGINEERING CHEMISTRY LAB	Understand and practice different techniques of quantitative chemical analysis to generate experimental skills and apply these skills to various analyses	3	-	-	-	2	-	-	-		-	-	3	-	
			Develop skills relevant to synthesize organic polymers and acquire the practical skill to use TLC for the identification of drugs	3	-	-	-	3	-	-	-		-	-	3	-	-
			Develop the ability to understand and explain the use of modern spectroscopic techniques for analysing and interpreting the IR spectra and NMR spectra of some organic compounds	3	-	-	-	3		-	-		-	-	3	-	-
			Acquire the ability to understand, explain and use instrumental techniques for chemical analysis	3	-	-	-	3		-	-	-	-	-	3	-	-
			Learn to design and carry out scientific experiments as well as accurately record and analyze the results of such experiments	3	-	-	-	1		-	-	-		-	3		-
			Function as a member of a team, communicate effectively and engage in further learning. Also understand how chemistry addresses social, economical and environmental problems and why it is an integral part of curriculum	3	-	-	-	1		-	-	-	-	-	3		-
II	ESL 130	ELECTRICAL & ELECTRONICS WORKSHOP	Demonstrate safety measures against electric shocks.	-	-	-	-	-	3	-		-		-	1	-	-
			Identify the tools used for electrical wiring, electrical accessories, wires, cables, batteries and standard symbols	2	-	-	-			-		-	1	-		-	-
			Develop the connection diagram, identify the suitable accessories and materials necessary for wiring simple lighting circuits for domestic buildings	2	-	-	1		1	-	1	2	2	-	2	-	-
			Identify and test various electronic components	3	-	-				-	-			-	2	-	-
			Draw circuit schematics with EDA tools	3	-	-		2		-	-			-	2	-	-
			Assemble and test electronic circuits on boards	3	-			2		-	-			-	1	-	
			Work in a team with good interpersonal skills	-	-	-	-	-	-	-	-	3	2	-	2	-	-
III	MAT 201	PARTIAL DIFFERENTIAL EQUATIONS AND COMPLEX ANALYSIS	Understand the concept and the solution of partial differential equation.	3	3	3	3	2	1	-	-	-	2	-	2	-	-
			Analyse and solve one dimensional wave equation and heat equation.	3	3	3	3	2	1	-	-	-	2	-	2	-	-
			Understand complex functions, its continuity differentiability with the use of CauchyRiemann equations.	3	3	3	3	2	1	-	-	-	2	-	2	-	-
			Evaluate complex integrals using Cauchy's integral theorem and Cauchy's integral formula, understand the series expansion of analytic function	3	3	3	3	2	1	-	-	-	2	-	2	-	-
			Understand the series expansion of complex function about a singularity and Apply residue theorem to compute several kinds of real integrals	3	3	3	3	2	1	-	-	-	2	-	2	-	-
III	EET201	CIRCUITS AND NETWORKS	Apply circuit theorems to simplify and solve complex DC and AC electric networks.	3	3	-	-	-	-	-	-	-	-	-	2	-	-
			Analyse dynamic DC and AC circuits and develop the complete response to excitations.	3	3	-	-	-	-	-	-	-	-	-	2	-	-
			Solve dynamic circuits by applying transformation to s-domain	3	3	-	-	-	-			-	-	-	2	-	-
			Analyse three-phase networks in Y and Δ configurations.	3	3	-	-	-	-	-	-	-	-	-	2	-	-
			Solve series /parallel resonant circuits.	3	3	-	-	-	-		-	-	-	-	2	-	-
			Develop the representation of two-port networks using network parameters and analyse.	3	3	-	-	-	-	-	-	-	-	-	2	-	-
III	EET203	MEASUREMENTS AND INSTRUMENTATION	Identify and analysethe factors affecting performance of measuring system	2	1	-	-	-	-		-	-	-	-	-	-	-
			Choose appropriate instruments for the measurement of voltage, current in ac and dc measurements	3	1	-	-	-	-	-	-	-	-	-	-	-	-
			Explain the operating principle of power and energy measurement	3	1	-	-	-	-	-	-	-	-	-	-		-
			Outline the principles of operation of Magnetic measurement systems	3	-	-	-	-	-	-	-	-	-	-	-	-	-
			Describe the operating principle of DC and AC bridges, transducersbased systems.	3	-	-	-	1	-	-	-	-	-	-	2	-	-
			Understand the operating principles of basic building blocks of digital systems, recording and display units	3	-	-	-	2	-	-	-	-	-	-	2	-	-
III	EET205	ANALOG ELECTRONICS	Design biasing scheme for transistor circuits.	2	2	2	-	-	-	-	-	-	-	-	-	-	-
			Model BJT and FET amplifier circuits.	2	2	2	-	-	-	-	-	-	-	-	-	-	-
			Identify a power amplifier with appropriate specifications for electronic circuit applications	-	-	1	2	-	-	-	-	-	-	-	-	-	-
			Describe the operation of oscillator circuits using BJT.	2	2	2		-	-	-	-	-	-	-	-	-	-
			Explain the basic concepts of Operational amplifier(OPAMP)			1	2	-	-	-	-	-	-	-	-	-	-
			Design and developvarious OPAMP application circuits.	2	2	2	-	-	-	-		-	-	-	-	-	-
III	T 200	SSIONAL HICS	Understand the core values that shape the ethical behaviour of a professional	-	-	-	-	-	-	-	2	-	-	2	-	-	-
			Adopt a good character and follow an ethical life.	-	-	-	-	-	-	-	2	-	-	2	-	-	-
			Explain the role and responsibility in technological development by keeping personal ethics and legal ethics.	-	-	-	-	-	-	-	3	-	-	2	-	-	-

...	HU1	PROFES ETI	Solve moral and ethical problems through exploration and assessment by established experiments.	-	-	-	-	-	--	-	3	-	-	2	-	-	-
			Apply the knowledge of human values and social values to contemporary ethical values and global issues.	-	-	-	-	-	-	-	3	-	-	2	-	-	-
III	MCN201	SUSTAINABLE ENGINEERING	Understand the relevance and the concept of sustainability and the global initiatives in this direction	-	-	-	-	-	2	3	-	-	-	2	-	-	-
			Explain the different types of environmental pollution problems and their sustainable solutions	-	-	-	-	-	2	3	-	-	-	2	-	-	-
			Discuss the environmental regulations and standards	-	-	-	-	-	2	3	-	-	-	2	-	-	-
			Outline the concepts related to conventional and non-conventional energy	-	-	-	-	-	2	3	-	-	-	2	-	-	-
			Demonstrate the broad perspective of sustainable practices by utilizing engineering knowledge and principles	-	-	-	-	-	2	3	-	-	-	2	-	-	-
III	EEL201	CIRCUITS AND MEASUREMENTS LAB	Analyse voltage current relations of RLC circuits	3	3	2	-	-	-	-	2	-	-	3	-	-	-
			Verify DC network theorems by setting up various electric circuits	3	3		-	-	-	-	2	-	-	3	-	-	-
			Measure power in a single and three phase circuits by various methods	3	3		-	-	-	-	2	-	-	3	-	-	-
			Calibrate various meters used in electrical systems	3	3	2	-	-	-	-	2	-	-	3	-	-	-
			Determine magnetic characteristics of different electrical devices	3	3		-	-	-	-	2	-	-	3	-	-	-
			Analyse the characteristics of various types of transducer systems	3	3	2	-	-	-	-	2	-	-	3	-	-	-
			Determine electrical parameters using various bridges	3	3		-	-	-	-	2	-	-	3	-	-	-
			Analyse the performance of various electronic devices for an instrumentation systems and, to develop the team management and documentation capabilities.	3	3	3	3	2	-	-	3	3	3	3	-	-	-
III	EEL203	ANALOG ELECTRONICSLAB	Use the various electronic instruments and for conducting experiments	3					-	-	2	-		-	-	-	-
			Design and develop various electronic circuits using diodes and Zener diodes.	2	2	2			-	-	2	-		-	-	-	-
			Design and implement amplifier and oscillator circuits using BJT and JFET	2	2	2			-	-	2	-		-		-	-
			Design and implement basic circuits using IC (OPAMP and 555 timers).	2	2	2			-	-	2	-		-		-	-
			Simulate electronic circuits using any circuit simulation software.	1	1			3	-	-	3	-		-		-	-
			Use PCB layout software for circuit design	1				3	-	-	3	-		-		-	-
IV	MAT 204	PROBABILITY DISTRIBUTION AND TRANSFORMS	Understand the concept, properties and important models of discrete random variables and, using them, analyse suitable random phenomena.	3	2	2	2	2	-	-		-	2	-	1	-	-
			Understand the concept, properties and important models of continuous random variables and, using them, analyse suitable random phenomena.	3	2	2	2	2	-	-		-	2	-	1	-	-
			Analyse random processes using autocorrelation, power spectrum and Poisson process model as appropriate.	3	2	2	2	2	-	-		-	2	-	1	-	-
			Compute roots of equations, evaluate definite integrals and perform interpolation on given numerical data using standard numerical techniques	3	2	2	2	2	-	-		-	2		1	-	-
			Apply standard numerical techniques for solving systems of equations, fitting curves on given numerical data and solving ordinary differential equations.	3	2	2	2	2	-			-	2	-	1	-	-
IV	EET302	DC MACHINES AND TRANSFORMERS	Acquire knowledge about constructional details of DC machines	3	2	-	-	2	-			-		-	3	-	-
			Describe the performance characteristics of DC generators	3	2	-	-	-	2	-	-	-		-	3	-	-
			Describe the principle of operation of DC motors and select appropriate motor types for different applications	3	2	2	-	-	2	-	-	-	-	-	3	-	-
			Acquire knowledge in testing of DC machines to assess its performance	3	3	-	-	-	2	-	-	-	-		3	-	-
			Describe the constructional details and modes of operation of single phase and three phase transformers	3	-	-	-	-	2	-	-	-	-	-	3		-
			Analyse the performance of transformers under various conditions	3	-	-	-	-	2	-	-	-	-	-	3	-	-
IV	EET204	ELECTROMAGNETIC THEORY	Apply vector analysis and coordinate systems to solve static electric and magneticfield problems.	2	3	-	-	-	-	-	-	-	-	-	-	-	-
			Apply Gauss Law, Coulomb's law and Poisson's equation to determine electrostatic field parameters	2	3	-	-	-	-	-	-	-	-	-	-	-	-
			Determine magnetic fields from current distributions by applying Biot-Savart's law and Amperes Circuital law.	2	3	-	-	-	-	-	-	-	-	-	-	3	-
			Apply Maxwell Equations for the solution of timevarying fields	2	3	-	-	-	-	-	-	-	-	-	-	3	3
			Analyse electromagnetic wave propagation in different media.	2	3	-	-	-	-	-	-	-	-	-	-	-	-
IV	EET206	DIGITAL ELECTRONICS	Identify various number systems, binary codes and formulate digital functions using Boolean algebra	3	1	-	-	-	-	-	-	-	-	-	-	-	-
			Design and implement combinational logiccircuits.	3	3	2	-	-	-	-	-	-	-	-	-	-	3
			Design and implement sequential logic circuits.	3	3	2	-	-	-	-	-	-	-	-	-	-	3
			Compare the operation of various analog to digital and digital to analog conversion circuits.	3	2	1	-	-	-	-	-	-	-	-	-	-	-
			Explain the basic concepts of programmable logic devices and VHDL.	3	2	2	-	2	-	-	-	-	-	-	-	-	-
IV	EST 200	DESIGN AND ENGINEERI NG	Explain the different concepts and principles involved in design engineering.	2	1	-	-		-	1	-	-	1	-	-	1	-
			Apply design thinking while learning and practicing engineering.		2		-	-	1	-	1	-	-	-	2	1	-
			Develop innovative, reliable, sustainable and economically viable designs incorporating knowledge in engineering			2	-	-	1	1	-	2	1	-	1	1	-
IV	MCN202	COURSE NAME CONSTITUTION OF INDIA	Explain the background of the present constitution of India and features	-	-	-	-	-	2	2	2	-	2	-	-	-	-
			Utilize the fundamental rights and duties	-	-	-	-	-	3	3	3	-	3	-	-	-	-
			Understand the working of the union executive, parliament and judiciary.	-	-	-	-	-	3	2	3	-	3	-	-	-	-
			Understand the working of the state executive, legislature and judiciary						3	2	3		3				
			Utilize the special provisions and statutory institutions.	-	-	-	-	-	3	2	3	-	3	-	-	-	-
			Show national and patriotic spirit as responsible citizens of the country	-	-	-	-	-	3	3	3	-	2	-	-	-	-
		s Lab I	Analyse the performance of DC motors and DC generators by performing load test.	3	3	2	2	-	-	-	-	3	2	-	3	3	-
			Sketch the Open Circuit Characteristics of a self excited DC shunt generator and check conditions of voltage build up by performing suitable experiment.	3	3	2	2	-	-	-	-	3	2	-	3	3	-

IV	EEL202	Electrical Machine	Develop equivalent circuit and predetermine their regulation and efficiency by performing OC & SC tests on transformer.	3	3	2	2	-	-	-	-	3	2	-	3	3	-
			Analyse the efficiency and regulation of the transformer by performing load test	3	3	2	2	-	-	-	-	3	2	-	3	3	-
			Analyse the efficiency of a DC machine when working as motor and generator by conducting suitable test.	3	3	2	2	-	-	-	-	3	2	-	3	3	-
			Examine the efficiency by performing Sumpner's test on two similar transformers.	3	3	2	2	-	-	-	-	3	2	-	3	3	-
IV	EEL204	DIGITAL ELECTRONICS LAB	Formulate digital functionsusing Boolean Algebra and verify experimentally.	3	1	1	3	3	-	-	2	3	3	-	2	-	-
			Design and implement combinational logic circuits	3	3	3	3	3	-		2	3	3	-	2	-	3
			Design and implement sequential logic circuits.	3	3	3	3	3	-	-	2	3	3	-	2	-	3
			Design and fabricate a digital circuit using the knowledge acquired from the laboratory	3	2	1	3	2	-	-	2	3	3	2	1	-	-
V	EET301	POWER SYSTEMS I	Identify the power generating system appropriate for a given area.	3		-	-	-	2	-	2	-	-	1	2	3	-
			Evaluate the electrical performance of any transmission line.	3	3	-	-	-	-	-	-	-	-	-	-	3	3
			Compute various physical characteristics of underground and overhead transmission systems.	3	2	-	-	-	2	2	2	-	-	-	-	3	2
			Select appropriate switchgear for protection schemes	3	1	-	-	-	2	-	2	-	-	-	1	3	1
			Design a simple electrical distribution system as per the standards	3	1	-	-	-	2	2	2	-	-	1	2	3	1
V	EET303	MICROPROCESSORS AND MICROCONTROLLERS	Describe the architecture and timing diagram of 8085 microprocessor	3	2	-	-	-	-	-	-	-	-	-	-	-	-
			Develop assembly language programs in 8085 microprocessor	3	2	3	2	1	-	-	-	-	-	-	-	-	-
			Identify the different ways of interfacing memory and I/O with 8085 microprocessor	3	2	2	2	2	-	-	-	-	-	-	-	-	-
			Understand the architecture of 8051 microcontroller and embedded systems.	3	2	-	-	-	-	-	-	-	-	-	-	-	-
			Develop assembly level and embedded C programs in 8051 microcontroller.	3	2	3	2	1	1	-	-	-	-	-	1	-	-
V	EET305	SIGNALS AND SYSTEMS	Explain the basic operations on signals and systems	3	3	-	-	2	-	-	-	-	-	-	1	-	3
			Apply Fourier Series and Fourier Transform concepts for continuous time signals.	3	3	3	-	-	-	-	-	-	-	-	1	-	3
			Analyse the continuous time systems with Laplace Transform.	3	3	3	-	2	-	-	-	-	-	-	2	-	2
			Analyse the discrete time system using Z Transform.	3	3	3	-	2	-	-	-	-	-	-	2	-	2
			Apply Fourier Series and Fourier Transform concepts for Discrete time domain.	3	3	2									2	-	3
			Describe the concept of stability of continuous time systems and sampled data systems.	3	3	-	-	-	2	-	-	-	-	-	2	1	-
V	EET307	SYNCHRONOUS AND INDUCTION MACHINES	Analyse the performance of different types of alternators.	2	2	-	-	-	2	-	-	-	-	-	2	1	-
			Analyse the performance of a synchronous motor.	3	3	2	-	-	2	-	-	-	-	-	2	1	-
			Analyse the performance of different types of induction motors.	3	3	2	-	-	2	-	-	-	-	-	2	1	-
			Describe operating principle of induction machine as generator	3	3	2	-	-	2	-	-	-	-	-	2	1	-
			Explain the types of single phase induction motors and their working principle.	2	2	-	-	-	2	-	-	-	-	-	2	1	-
V	EEL331	MICROPROCESSORS AND MICROCONTROLLERS LAB	Develop and execute assembly language programs for solving arithmetic and logical problems using microprocessor/microcontroller	3	3	2	2	3	-	-	2	2	3	-	2	-	-
			Design and Implement systems with interfacing circuits for various applications	3	3	2	2	3	-	-	2	2	3	-	2	-	-
			Execute projects as a team using microprocessor/microcontroller for real life applications.	3	3	3	3	3	3	3	3	3	3	2	2	-	-
V	EEL333	ELECTRICAL MACHINES LAB II	Analyse the performance of single phase and three phase induction motors by conducting suitable tests.	3	3	2	2	-	-	-	-	3	2	-	3	1	-
			Analyse the performance of three phase synchronous machine from V and inverted V curves.	3	3	2	2	-	-	-	-	3	2	-	3	1	-
			Analyse the performance of a three phase alternator by conducting suitable tests	3	3	2	2	-	-	-	-	3	2	-	3	1	-
VI	EET302	LINEAR CONTROL SYSTEMS	Describe the role of various control blocks and components in feedback systems.	3	3	-	-	-	-	-	-	-	-	-	1	-	2
			Analyse the time domain responses of the linear systems.	3	3	3	-	-	-	-	-	-	-	-	2	-	3
			Apply Root locus technique to assess the performance of linear systems.	3	3	3	2	-	-	-	-	-	-	-	2	-	2
			Analyse the stability of the given LTI systems.	3	3	3	-	-	-	-	-	-	-	-	3	-	3
			Analyse the frequency domain response of the given LTI systems	3	3	3	2	-	-	-	-	-	-	-	3	-	2
			Design compensators using time domain and frequency domain techniques.	3	3	3		-	-	-	-	-	-	-	3	-	2
VI	EET304	POWER SYSTEMS II	Apply the per unit scheme for any power system network and compute the fault levels.	3	3	-	-	-	-	-	-	-	-	-	2	3	-
			Analyse the voltage profile of any given power system network using iterative methods.	3	3	2	-	-	-	-	-	-	-	-	2	3	-
			Analysethe steady state and transient stability of power system networks.	3	3	2	-	-	-	-	-	-	-	-	1	3	-
			Model the control scheme of power systems.	3	2	-	-	-	-	-	-	-	-	-	-	2	-
			Schedule optimal generation scheme.	3	3	1	-	-	-	-	-	-	-	3	1	2	
									3								
VI	EET306	POWER ELECTRONICS	Explain the operation of modern power semiconductor devices and its characteristics.	3	1	-	1	-	-	-	-	-	-	-	-	-	-
			Analyse the working of controlled rectifiers.	3	2	1	2	-	-	-	-	-	-	-	2	2	3
			Explain the working of AC voltage controllers, inverters and PWM techniques.	3	3	-	-	-	-	-	-	-	-	-	-	3	-
			Compare the performance of different dc-dc converters.	3	3	2	2	-	-	-	-	-	-	-	2	-	-
			Describe basic drive schemes for ac and dc motors.	3	2	-	-	-	-	-	-	-	-	-	2	2	-
VI	EET322	Renewable Energy Systems	Describe the environmental aspects of renewable energy resources.	3	3	-	-	-	-	-	-	-	-	-	2	2	-
			Explain the operation of various renewable energy systems.	3	3	-	-	-	-	-	-	-	-	-	2	2	-
			Design solar PV systems	3	3	-	-	-	-	-	-	-	-	-	2	2	-
			Explain different emerging energy conversion technologies and storage	3	3	-	-	-	-	-	-	-	-	-	2	2	-
		rs	To recall and identify the relevant of management concepts.	-	-	-	-	-	3	-	-	-	-	3	-	-	-

VI	HUT310	Management for Enginee	To describe ,discuss and relate management techniques adopted within an organisation	-	-	-	-	-	2	-	3	3	-	-	3	-	-
			To apply management techniques for meeting current and future management challenges faced by the organization.	-	-	-	-	-	-	-	-	2	-	3	3	-	-
			To compare the management theories and models critically and to inspect and question its validity in the real world.	-	-	-	-	-	3	-	3	2	-	-	2	-	-
			To assess and modify different theories of management so as to relate it to current management challenges.	-	-	-	-	-	-	-	-	-	-	3	3	1	1
VI	EET308	COMPREHENSIVE COURSE WORK	Apply the knowledge of circuit theorems to solve the problems in electrical networks	3	3	-	-	-	-	-	-	-	-	-	2	-	-
			Evaluate the performance of DC machines and Transformers under different loading conditions	3	2	-	-	-	-	-	-	-	-	-	2	-	-
			Identify appropriate digital components to realise any combinational or sequential logic.	3	3	1	-	1	-	-	-	-	-	-	2	-	-
			Apply the knowledge of Power generation, transmission and distribution to select appropriate components for power system operation	3	3	-	-	-	1	1	1	-	-	1	2	-	-
			Apply appropriate mathematical concepts to analyse continuous time and discrete time signals and systems	3	3	1	-	1	-	-	-	-	-	-	2	-	-
VI	EEL332	POWER SYSTEMS LAB	Develop mathematical models and conduct steady state and transient analysis of power system networks using standard software	3	3	2	3	3	-	-	3	2	3	-	3	3	-
			Develop a frequency domain model of power system networks and conduct the stability analysis	3	2	1	3	3	-		1	2	3	-	2	3	-
			Develop a frequency domain model of power system networks and conduct the stability analysis	3	1	1	3	3	3	1	3	3	3	-	3	3	-
			Conduct site inspection and evaluate performance ratio of solar power plant.	3	1	1	3	3	3	3	3	3	3	2	3	3	-
VI	EEL334	POWER ELECTRONICS LAB	Determine the characteristics of SCR and design triggering circuits for SCR based circuits	3	3	2	2	2	-	-	-	3	2	-	3	3	2
			Design, set up and analyse single phase AC voltage controllers.	3	3	2	2	2	-	-	-	3	2	-	3	3	2
			Design, set up and test suitable gate drives for MOSFET/IGBT.	3	3	2	2	2	-	-	-	3	2	-	3	3	3
			Design, set up and test basic inverter topologies.	3	3	2	2	2	-	-	-	3	2	-	3	3	3
			Design and set up dc-dc converters.	3	3	2	2	2				3	2		3	3	3
			Develop simulation models of dc-dc converters, rectifiers and inverters using modern simulation tools	3	3	2	2	3	-	-	-	3	2	-	3	3	3
VII	EET401	Advanced Control Theory	Be aware of electromagnetic interfance and compatability.	3	3	3	1	-	-	-	-	-	-	-	-	1	2
			Graduates will have a strong knowledge in Compensator design techniques	3	3	-	1	-	-	-	-	-	-	-	2	1	-
			Graduates will able to predict and analyze transient and steady state response and stability and sensitivity of both open loop and closed loop linear, time inavrient control systems	2	3	-	1	-	-	-	-	-	-	-	2	-	2
			Graduates will be able to understand different state models of a system and have the knowlegde to find its solutions	3	2	2	-	-	-	-	-	-	-	-	-	-	2
			Graduates will be able to derive discrete -time mathematical models in both time domain	3	3	-	2	1	-	-	-	-	-	-	-		2
			Graduates will be able to analyse the describing function analysis of variuos non linear systems	-	-	3	-	-	-	-	-	-	-	-	3	2	-
VII	EET453	Digital Signal Processing	To understand the design and layout of installation for recreational or assembly buildings	3	-	-	-	-	-	-	-	-	-	-	-	-	2
			Analyse DT systems with DFT.	3	-	2	-	-	-	-	-	-	-	-	-	-	2
			Design digital filters IIR and FIR filters.	3	2	-	-	-	-	-	-	-	-	-	-	-	2
			Analyse finite word length in signal processing .	3	-	-	-	2	-	-	-	-	-	-	-	-	2
			Design filters using MATLAB FDA tool box.	3	-	-	-	-	-	-	-	-	-	-	-	-	2
VII	EEL411	Control Systems Lab	Develop mathematical models for servomotors and other electrical systems	3	2	2	-		-	-	-	2	-	-	-	-	-
			Performance analysis of different process control systems	2	-	-	-		-		-	2	-	-	-	-	-
			Performance analysis of different types of controllers	2	-	2	-		-	-	-	2	-	-	-	-	-
			Use MATLAB and Simulink to design and analyse simple systems and compensators	2		2		3				2				-	-
VII	EEQ413	Seminar	Explain various communication protocols and technologies used in vehicle networks	2	2	1	1	-	1	1	1	3	3	-	3	1	1
			Analyse a current topic of professional interest and present it before an audience.	3	3	2	2	-	2	1	1	3	3	1	3	2	2
VII	EED415	Project Phase I	Apply enginering knowledge in practical problem solving .	3	-	2	-	-	-	-	2	2	-	-	1	2	1
			Foster innovation in design of products, processes or systems	3	2	2	-	2	-	-	2	-	-	-	1	2	1
			Develop creative thinking in finding viable solutions to engineering problems	3	2	-	-	-	-	-	2	2	-	2	1	2	1
VIII	EET402	Electrical System Design and Estimation	Describe the Power Quality issues and related parameters in Smart Grids.	3	-	-	-	-	3	-	-	-	-	-	-	2	-
			To understand the acts and rules for regulating the electrical supply in our country	3	-	3	-	-	3	-	-	-	-	-	-	2	-
			To understand the design and estimation of low voltage and medium voltage electrical installation	3	-	-	-	-	3	-	-	-	-	-	-	2	-
			To understand the selection of distribution transformers and their installations	3	-	-	-	-	3	-	-	-	-	-	-	2	-
			To understand the selection of standby generator	3	-	3	-	-	3	-	-	-	-	-	-	2	-
			To understand the earthing designs in different installationa and the standard dimensions of earthing systems	3	-	3	-	-	3	-	-	-	-	-	-	2	-
VIII	EET444	Machine Design	Students will be able to recognize and understand the Principles of electrical machine design and Magnetic circuit calculation	3	2	2	-	-	-		-	-	-	-	-	2	-
			Students will be able to understand the design of transformers - single phase and three phase transformers	3	2	2	-	-	-		-	-	-	-	-	-	-
			Students will be able to design DC machines,core,windings	3	2	2	-	-	-		-	-	-	-	-	2	

	E	Electrical	Students will be able to design synchronous machines and field design for water wheel and turbo alternators	3	2	2	-		-	-	-	-	-	-	-	-	2	
			Students will be able to Design of three phase induction motors	3	2			3	-	-	-	-		-	-	-	-	-
VIII	EET426	Special Electric Machines	Validate the performance of power system devices by appropriate tests.	2	-	-	-	-	-	-	-	-	-	-	-	2	-
			Explain the constructional features, principle of operation and analysis of AC and DC servomotors	2	1	-	-	-	-	-	-	-	-	-	-	2	-
			Describe the basic principles, theory of operation and classification of stepper motors	3	2	1	-	-	-	-	-	-	-	-	-	2	-
			Explain fundamentals, constructional details and principle of opertaion of single phase special electrical AC series motors, Universal Momtors, and Hysteresis Motor	3	2	1	-	-	-	-	-	-	-	-	-	2	-
			Demonstarate the constuctional features and principle of operation and power converter circuits of Switched Relucatance Motor	2	1	-	-	-	-	-	-	-	-	-	-	2	-
			Explain the construcational features and principles of working of Permanent Magnet DC Motors and Brushless DC Motors	2	-	-	-	-	-	-	-	-	-	-	-	2	-
VIII	EET468	Industrial Instrumentation & Automation	Summarise the fundamentals, constructaional details and classification of Linear Motors	3	-	-	-	-	-	-	-	-	-	-	-	-	2
			Select instruments and transducers for various physical variables	3	-	-	-	-	-	-	-	-	-	-	-	-	2
			Get an insight on data acquisition, processing and monitoring system	3	-	-	-	-	-	-	-	-	-	-	-	-	2
			Design various signal conditioning systems for transducers	3	-	-	-	-	-	-	-	-	-	-	-	-	2
			Get the concept of industrial automation	3	-	-	-	2	-	-	-	-	-	-	-	-	2
VIII	EED416	Project	Apply enginering knowledge in practical problem solving .	3	-	2	-	-	-	-	2	2	-	-	1	2	1
			Foster innovation in design of products, processes or systems	3	2	2	-	2	-	-	2	-	-	-	1	2	1
			Develop creative thinking in finding viable solutions to engineering problems	3	2	-	-	-	-	-	2	2	-	2	1	2	1

Program Level Matrix

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3	2.8	3	2.8	1.8	1			1	2		2					

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	1.6	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0	1.0	2.0	0.0	0.0	1.0	#DIV/0!	0.0			

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.8	2.8	0.0	0.0	#DIV/0!	0.0	0.0	0.0	0.0	0.0	0.0	0.0	#DIV/0!	#DIV/0!	1.6	1.7	-

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
#DIV/0!	3.0	2.0	1.0	0.0	1.0	0.0	#DIV/0!	1.2	1.3	0.2	2.0	#DIV/0!	0.0	2.3	1.8	1.0

Please dont fill values above (Equation is set)

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0				3.0			1.0	2.0					1.0	0.9	0.9	1.6
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0		1.0	2.4	0.8	0.8	0.8	1.0								
Please dont fill values above (Equation is set)																
-																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
1.4	0.0		1.0	1.0	1.0		0.5	1.3	1.3	0.0	0.3		0.3			
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0	3.0	3.0	2.0	1.0			1.0	2.0		2.0			2.0	-	-
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
1.2	1.3	1.0	0.6	0.8		0.6										
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	1.0			0.5					1.0					3.0	1.0	0.0
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.5	1.0										2.0	1.0	1.0			
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3

1.0	1.0				1.0			0.8	2.7		2.0					
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
1.7	2.2		1.0		2.0		0.7	2.0						1.4	1.4	2.4
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0				2.2							3.0					
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.6			0.3	1.0	1.3		0.2	1.3	1.7		1.7					
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0	3.0	3.0	2.0	1.0	0.0	#DIV/0!	#DIV/0!	2.0	0.0	2.0	0.0	0.0			
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0										2.0					
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.8	0.5			0.5							0.7					
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.0	2.0	1.7	0.8											2.0	2.0	1.7
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3

							2.6			2.0				1.4	1.3	1.2
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
					2.0	3.0				2.0				1.7	1.7	1.0
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0	2.3	0.4	0.3			2.1	0.4	0.4	3.0				2.0	1.5	1.4
2.9	2.9	2.3	0.5	0.3			2.1									
2.6	2.6	2.2	0.8	0.5			2.1									
2.1	2.2	2.3	1.5	2.0	PO6	PO7	2.4	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.1	1.8	2.0	2.0	2.5			2.3									
2.3	1.9	2.0	2.0	2.3			2.5									
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	2.0	2.0	2.0	2.0					2.0		1.0					
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	2.3	2.0		0.3	1.7						3.0			2.3	1.5	2.3
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.0	3.0											1.2	0.6	-	-	2.6
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	2.2	1.4		0.4									3.0			
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
			0.0		2.8	2.3	2.8	0.0	2.7	0.0	0.0	0.0		1.5	1.2	1.4
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0	2.0	2.0			0.0	0.0	3.0	2.0	0.0	3.0	3.0	0.0	2.0	-	-

Please dont fill values above (Equation is set)

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	2.3	2.0	3.0	2.8	0.0	0.0	2.0	3.0	3.0	0.5	1.8		1.5	2.8	2.5	-

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	1.8		0.0		1.6	0.8	1.6	0.0	0.0	0.4	1.0	3.0	1.4			

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	2.0	2.7	1.2	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0				

Please dont fill values above (Equation is set)

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0	2.8		1.2	2.0		0.0	0.0		0.0	1.7	1.0	2.6	1.5	1.3	1.1

Please dont fill values above (Equation is set)

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.6	2.6	2.0			2.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0		2.0	1.9	1.2

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3	3	.33333333	.33333333	3	3	1	.33333333	.33333333	3	2	2.0	0	0	1.5	2.6	2.4

Please dont fill values above (Equation is set)

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3

Please dont fill values above (Equation is set)

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0	3.0	2.0		0.0	0.0	0.0	0.0	0.0	0.0	2.3		2.3	2.0	1.6	1.3

Please dont fill values above (Equation is set)

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	2.8	1.7	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.6	1.2	2.6		1.8	-	-

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	2.2	1.5	1.0	0.0	0.0		0.0	0.0			2.0	2.3	0.6	2.0	2.5	1.4

Please dont fill values above (Equation is set)

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0					0.0		0.0	0.0	0.0	2.0	2.0		2.3	2.3	2.3

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
0.0				0.0	2.7		3.0	2.3		3.0	2.8	1.0	0.2	-	-	-
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	2.8	0.4	0.0	0.4	1.0	0.2	1.0	0.0	0.0	0.2	2.0			1.4	-	-
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3	1.75	1.3	3.0	3	1.5	.33333333	2.5	2.5	3	2	2.75	3.0		2.21	1.9	1.5
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	3.0	2.0	2.0	2.2		0.0	0.0	3.0	2.0	0.0	3.0	3.0	2.7	2.5	2.7	3.0
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.8	2.8	2.7	1.3	1.0	#DIV/0!	0.0	0.0	0.0	0.0	0.0	1.2	0.8	2.0	2.1	1.6	2.4
						Please dont fill values above (Equation is set)										
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3	2	2	#DIV/0!	2	0	0	0	0	0	0	0	2				
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.3	0.7	1.5	0.0	3.0	0.0	#DIV/0!	0.0	2.0	#DIV/0!	0.0	0.0	#DIV/0!	#DIV/0!	1.8	-	-
						Please dont fill values above (Equation is set)										
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.5	2.5	1.5	1.5	0	1.5	1	1	3	3	0.5	3	1.5	1.5			
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3	2	2	0	2												
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	0.0	3.0	0.0	#DIV/0!	3.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	#DIV/0!	2.1	1.4	0.7
						Please dont fill values above (Equation is set)										
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3

3.0	2.0	2.0		3.0	0.0	0.0	0.0	0.0	0.0		0.0	1.2	0.0	2.5	-	-
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
2.5	1.25	0.5	0	0	#DIV/0!	#DIV/0!	0	0	0	0	0	2	0	3	2.3	2.6
Please dont fill values above (Equation is set)																
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3.0	#DIV/0!	#DIV/0!	#DIV/0!	2.0	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0	0.0	#DIV/0!	0.0	2.0			
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PO1	PO2	PO3
3	2	2	#DIV/0!	666666666	#DIV/0!	#DIV/0!	2	2	#DIV/0!	2	1	2	1	2.93	1.93	1.93
Please dont fill values above (Equation is set)																

Program Level Matrix

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	2.6	-	-	-	-	-	-	-	0.8	0.85

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	1.0	1.0	1.5	-	-	-	-	1.9	-	0.97

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
0.9	0.9	1.4	1.6	0.6	-	-	0.9	0.9	-	-

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
0.9	-	0.9	-	-	-	1.1	-	0.9	1.2	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
0.0	0.3	0.0	0.0	0.0	0.0	0.5	0.0	0.0	#DIV/0!	#DIV/0!

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1.9	1.6	-	-	-	-	-	-	-	1.3	0.77

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
0.4	0.0	#DIV/0!	0.0	0.0	0.0	0.0	0.0	0.0	#DIV/0!	0.00

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

-	1.3	-	-	-	-	-	-	-	-	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
0.9	-	-	-	-	-	-	-	-	-	1.70

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	-	1.4	-	-	-	-	-	1.2	1.5	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1.4	-	-	-	-	0.8	-	-	0.9	-	2.30

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
3.0	3.0	-	-	-	2.0	-	-	1.0	-	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1.9	3.0	-	-	-	-	-	-	1.3	0.7	0.76

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	-	1.6	-	-	-	-	-	-	0.8	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
2.8	1.8	-	-	-	1.9	1.7	-	1.9	1.8	1.76

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
0.9	0.0	0.9	2.5	-	-	-	-	-	0.7	0.47

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
0.8	2.0								0.8	2.00

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1.3	-	0.8	-	-	-	2.8	1.8	2.8	2	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	-	1.3	-	-	-	-	-	1.5	1.6	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	1.9	-	1.8	-	-	2.4	-	-	1.7	2.53

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1.4	2.3	1.5	1.0	-	-	3.0	3.0	1.3	2.8	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
2.3	2.3	1.2	-	0.7	-	-	-	1.5	1.9	2.30

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	-	2.1	-	2.3	2.1	-	2.8	2.3	0.9	0.93

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	1.6	-	1.5	-	-	2.0	-	-	1.1	2.18

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1.8	2.28	1.52	-	-	2.28	-	-	2.28	0.7	0.76

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
3.0	3.0	3.0	2.0	-	2.0	2.0	3.0	2.0	-	1.00

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
										2.10

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	1.9	-	1.8	-	-	2.4	-	-	1.7	2.53

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	-	-	-	-	-	-	-	-	2.1	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

-	1.6	-	-	-	-	-	-	-	-	1.67

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	-	-	-	-	-	-	-	2	1.6	-

Please fill final attainment above(Add "-" if no mapping)

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
-	1.87	-	-	1.96	2	-	2	0.98	1.96	0.98

Please fill final attainment above(Add "-" if no mapping)