CRITERION 2-TEACHING-LEARNING AND EVALUATION

KEY INDICATOR 2.6 STUDENT PERFORMANCE AND LEARNING OUTCOMES

PEO1	Have successful technical and professional careers in their chosen fields such as circuit theory, Field theory, control theory and computational platforms.
PEO2	Engross in life long process of learning to keep themselves abreast of new developments in the field of Electronics and their applications in power engineering.

1.PROGRAM OUTCOMES (POs) AND PROGRAM SPECIFIC OUTCOMES (PSOs) OF THE INSTITUTE

PROGRAM OUTCOMES (POs)

PO1	Apply the Mathematical knowledge and the basics of Science and Engineering to solve the problems pertaining to Electronics and Instrumentation Engineering.
PO2	Identify and formulate Electrical and Electronics Engineering problems from research literature and be ability to analyze the problem using first principles of Mathematics and Engineering Sciences.
PO3	Come out with solutions for the complex problems and to design system components or process that fulfill the particular needs taking into account public health and safety and the social, cultural and environmental issues.
PO4	Draw well-founded conclusions applying the knowledge acquired from research and research methods including design of experiments, analysis and interpretation of data and synthesis of information and to arrive at significant conclusion.
PO5	Form, select and apply relevant techniques, resources and Engineering and IT tools for Engineering activities like electronic prototyping, modeling and control of systems and also being conscious of the limitations.
PO6	Understand the role and responsibility of the Professional Electrical and Electronics Engineer and to assess societal, health, safety issues based on the reasoning received from the contextual knowledge.
PO7	Be aware of the impact of professional Engineering solutions in societal and environmental contexts and exhibit the knowledge and the need for Sustainable Development.
PO8	Apply the principles of Professional Ethics to adhere to the norms of the engineering practice and to discharge ethical responsibilities..
PO9	Function actively and efficiently as an individual or a member/leader of different teams and multidisciplinary
PO10	Communicate efficiently the engineering facts with a wide range of engineering community and others, to understand and prepare reports and design documents; to make effective presentations and to frame and follow
PO11	Demonstrate the acquisition of the body of engineering knowledge and insight and Management Principles and to apply them as member / leader in teams and multidisciplinary environments.
PO12	Recognize the need for self and life-long learning, keeping pace with technological challenges in the broadest sense.

LIST OF COURSE FOR REGULATION 2017

S.NO	COURSE CODE	SUBJECT CODE	SUBJECT NAME
1ST SEMESTER			
1	C101	HS8151	Communicative English
2	C102	MA8151	Engineering Mathematics-I
3	C103	PH8151	Engineering Physics
4	C104	CY8151	Engineering Chemistry
5	C105	GE8151	Problem Solving and Python Programming
6	C106	GE8152	Engineering Graphics
7	C107	GE8161	Problem Solving and Python Programming Laboratory
8	C108	BS8161	Physics and Chemistry Laboratory
IIND SEMESTER			
9	C109	HS8251	Technical English
10	C110	MA8251	Engineering Mathematics-II
11	C111	PH8253	Physics for Electronics Engineering
12	C112	BE8252	Basic Civil and Mechanical Engineering
13	C113	EE8251	Circuit Theory
14	C114	GE8291	Environmental Science and Engineering
15	C115	GE8261	Engineering Practices Laboratory
16	C116	EE8261	Electric Circuits Laboratory
IIIRD SEMESTER			
17	C201	MA8353	Transforms and Partial Differential Equations
18	C202	EE8351	Digital Logic Circuits

19	C203	EE8391	Electromagnetic Theory
20	C204	EE8301	Electrical Machines-I
21	C205	EC8353	Electron Devices and Circuits
22	C206	ME8792	Power Plant Engineering
23	C207	EC8311	Electronics Laboratory
24	C208	EE8311	Electrical Machines Laboratory -I
IVTHSEMESTER			
25	C209	MA8491	Numerical Methods
26	C210	EE8401	Electrical Machines - II
27	C211	EE8402	Transmission and Distribution
28	C212	EE8403	Measurements and Instrumentation
29	C2013	EE8451	Linear Integrated Circuits and Applications
30	C214	IC8451	Control Systems
31	C215	EE8411	Electrical Machines Laboratory -II
32	C216	EE8461	Linear and Digital Integrated Circuits Laboratory
33	C217	EE8412	Technical Seminar
VTHSEMESTER			
34	C301	EE8501	Power System Analysis
35	C302	EE8551	Microprocessors and Microcontrollers
36	C303	EE8552	Power Electronics
37	C304	EE8591	Digital Signal Processing
38	C305	CS8392	Object Oriented Programming

39	C306	OMD551	Basics of Bio Medical Instrumentation
40	C307	EE8511	Control and Instrumentation Laboratory
41	C308	HS8581	Professional Communication
42	C309	CS8383	Object Oriented Programming Laboratory
VITHSEMESTER			
43	C310	EE8601	Solid State Drives
44	C311	EE8602	Protection and Switchgear
45	C312	EE8691	Embedded Systems
46	C313	EE8004	Modern Power Converters
47	C314	EE8005	Special Electrical Machines
48	C315	EE8661	Power Electronics and Drives Laboratory
49	C316	EE8681	Microprocessors and Microcontrollers Laboratory
50	C317	EE8611	Mini Project
VIITHSEMESTER			
51	C401	EE8701	High Voltage Engineering
52	C402	EE8702	Power System Operation and Control
53	C403	EE8703	Renewable Energy Systems
54	C404	OML751	Testing of Materials
55	C405	GE8071	Disaster Management
56	C406	GE8077	Total Quality Management
57	C407	EE8711	Power System Simulation Laboratory
58	C408	EE8712	Renewable Energy Systems Laboratory

VIIITHSEMESTER			
59	C409	MG8591	Principles of Management
60	C410	EE8017	High Voltage Direct Current Transmission System
61	C411	EE8811	Project Work

6. COURSE OUTCOMES FOR ELECTRICAL AND ELECTRONICS ENGINEERING

REGULATION 2017

PROGRAMME: ELECTRICAL AND ELECTRONICS ENGINEERING			DEGREE: U.G		ACADEMIC YEAR: 2022-2023	SEMESTER: I
SL. NO	**YEAR/ SEM**	**COURSE NAME**	**COURSE OUTCOMES The students will be able to understand the**			**KNOWLEDGE LEVEL**
1	I-YEAR I-SEM	HS8151_ COMMUNICATIVE ENGLISH	C101.1	Read articles of a general kind in magazines and news papers.		K2
			C101.2	Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English.		K2
			C101.3	Comprehend conversations and short talks delivered in English		K4
			C101.4	Write short essay sofa general kind and personal letters and emails in English		K2
2	I-YEAR I-SEM	MA8151- ENGINEERINGMATHEMATICS-I	C102.1	Use both the limit definition and rules of differentiation to differentiate functions		K2,K3,K4
			C102.2	Apply differentiation to solve maxima and minima problems.		K3,K4
			C102.3	Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus.		K3,K4,K5
			C102.4	Apply integration to compute multiple integrals, area, volume, integral sin polar coordinates, in addition to change of order and change of variables.		K3,K4,K5
			C102.5	Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts.		K3,K4,K5
			C102.6	Determine convergence/divergence of improper integrals and evaluate convergent improper integrals.		K3,K4,K5
			C102.7	Apply various techniques in solving differential equations.		K3,K4,K5
			C103.1	The students will gain knowledge o f basics of properties of matter an applications,		K2,K3

3	I-YEAR I-SEM	PH8151- ENGINEERING PHYSICS	C103.2	The students will acquire knowledge in on the concepts of waves and optical devices and their applications in fiber optics	K2,K3
			C103.3	The students will have adequate knowledge on the concepts of thermal properties of material sand their applications in expansion joints and heat exchangers,	K2,K3
			C103.4	The students will get knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscopes	K2,K3
			C103.5	The students will understand the basics of crystals, their structures and different crystal growth techniques.	K2,K3
4	I-YEAR I-SEM	CY8151- ENGINEERING CHEMISTRY	C104.1	The knowledge gained on engineering materials, fuels, energy sources and water treatment techniques will facilitate better understanding of engineering processes and applications for further learning.	K2,K3
5.	I-YEAR I-SEM	GE8151- PROBLEM SOLVING AND PYTHON PROGRAMMING	C105.1	Develop algorithmic solutions to simple computational problems	K6
			C105.2	Read, write, execute by hand simple Python programs.	K3
			C105.3	Structure simple Python programs for solving problems	K3
			C105.4	Decompose a Python program into functions.	K3
			C105.5	Represent compound data using Python lists, tuples, dictionaries	K3
			C105.6	Read and write data from/to files in Python Programs.	K3
6	I-YEAR I-SEM	GE8152 - ENGINEERING GRAPHICS	C106.1	Familiarize with the fundamentals and standards of Engineering graphics	K2,K3,K4
			C106.2	Perform free hand sketching of basic geometrical constructions and multiple views of objects.	K2,K3,K4
			C106.3	Projector the graphic projections of lines and plane surfaces.	K2,K3
			C106.4	Draw projections and solids and development of surfaces.	K6
			C106.5	Visualize and to project isometric and perspective sections of simple solids	K2,K3,K4

7	I-YEAR I-SEM	GE8161-PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY	C107.1	Write, test, and debug simple Python programs.	K3,K4
			C107.2	Implement Python programs with conditionals and loops.	K3
			C107.3	Develop Python program step-wise by defining functions and calling them.	K6
			C107.4	Use Python lists, tuples, dictionaries for representing compound data.	K2,K3
			C107.5	Read and write data from/to files in Python.	K2,K3
8.A	I-YEAR I-SEM	BS8161-PHYSICS AND CHEMISTRY LABORATORY	C108.1	Apply principles of elasticity, optic sand thermal properties for engineering applications.	K2
8.B	I-YEAR I-SEM	BS8161-PHYSICS AND CHEMISTRY LABORATORY	C108.2	The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related parameters.	K2,K3

PROGRAMME: ELECTRICAL AND ELECTRONICS ENGINEERING	**DEGREE: U.G**	**ACADEMIC YEAR: 2022-2023**
		SEMESTER: II

SL. NO	YEAR/ SEM	COURSE NAME	COURSE OUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1.	I-YEAR II-SEM	HS8251-TECHNICAL ENGLISH	C201.1	Read technical texts and write area-specific texts effortlessly.	K2
			C201.2	Listen and comprehend lectures and talks in their area of specialization successfully.	K3,K4
			C201.3	Speak appropriately and effectively in varied formal and in formal contexts.	K2
			C201.4	Write reports and winning job applications.	K3
2	I-YEAR II-SEM	MA8251-ENGINEERING MATHEMATICS	C202.1	Eigen values and Eigen vectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices.	K5
			C202.2	Gradient, divergence and curl of a vector point function and related identities.	K2,K4
			C202.3	Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification.	K5
			C202.4	Analytic functions, conformal mapping and complex integration	K4,K5

			C202.5	Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.	K3,K4
3	I-YEAR II-SEM	PH8253-PHYSICSFOR ELECTRICL ENGINEERING	C203.1	Gain knowledge on classical and quantum electron theories, and energy band	K2,K3
			C203.2	Acquire knowledge on basics of semiconductor physics and its applications in various devices,	K2,K3
			C203.3	Get knowledge on magnetic and dielectric properties of materials,	K2,K3
			C203.4	Have the necessary understanding on the functioning of optical materials for opto electronics,	K2,K3
			C203.5	Understand the basics of quantum structures and their applications in spintronics and carbon electronics.	K2,K3
4	I-YEAR II-SEM	BE8252-BASIC CIVIL AND MECHANICALENG INEERING	C204.1	Appreciate the Civil and Mechanical Engineering components of Projects.	K6
			C204.2	Explain the usage of construction material and proper selection of construction materials.	K2
			C204.3	Measure distances and area by surveying	K4
			C204.4	Identify the components used in power plant cycle.	K2
			C204.5	Demonstrate working principles of petrol and diesel engine.	K3
			C204.6	Elaborate the components of refrigeration and Air conditioning cycle.	K2
5	I-YEAR II-SEM	EE8251-CIRCUIT THEORY	C205.1	Ability to analyze electrical circuits	K4
			C205.2	Ability to apply circuit theorems	K3
			C205.3	Ability to analyze transients	K4
6	I-YEAR II-SEM	GE8291-ENVIRONMENTAL SCIENCE AND ENGINEERING	C206.1	Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course	K2,K3
			C206.2	Public awareness of environmental is at infant stage.	K2

			C206.3	Ignorance and incomplete knowledge has lead to misconceptions	
			C206.4	Development and improvement instead of living has lead to serious environmental disasters	K6
7	I-YEAR II-SEM	GE8261 ENGINEERING PRACTICES LABORATORY	C207.1	Fabricate carpentry components and pipe connections including plumbing works.	K6
			C207.2	Use welding equipments to join the structures.	K6
			C207.3	Carryout the basic machining operations	K4
			C207.4	Make the models using sheet metal works	K6
			C207.5	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundry and fittings.	K4
			C207.6	Carryout basic home electrical works and appliances	K3
			C207.7	Measure the electrical quantities	K4
			C207.8	Elaborate on the components, gates, soldering practices.	K6
8	I-YEAR II-SEM	EE8261-ELECTRIC CIRCUIT LABORATORY	C208.1	Understand and apply circuit theorems and concepts in engineering applications.	K2,K3
			C208.2	Simulate electric circuits.	K2,K3

PROGRAMME: ELECTRICAL AND ELECTRONICS ENGINEERING	**DEGREE:** U.G	**ACADEMIC YEAR:** 2022-2023	**SEMESTER:** III

SL. NO	**YEAR/ SEM**	**COURSENAME**	**COURSE OUTCOMES The students will be able to understand the**		**KNOWLEDGE LEVEL**
1	II-YEAR III-SEM	MA8553-TRANSFORMS AND PARTIAL DIFFERERENTIAL EQUATION	C301.1	Understand how to solve the given standard partial differential equations.	K2
			C301.2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications	K3,K4
			C301.3	Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations.	K3,K4

			C301.4	Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering.	K3,K4,K5
			C301.5	Use the effective mathematical tools for the solutions of partial differential equations by using Z-transform techniques for discrete time systems.	K3,K4,K5
2	II-YEAR III-SEM	EE8351-DIGITAL LOGIC CIRCUIT	C302.1	Ability to design combinational and sequential Circuits.	K6
			C302.2	Ability to simulate using software package.	K3
			C302.3	Ability to study various number systems and simplify the logical expressions using Boolean functions	K2
			C302.4	Ability to design various synchronous and asynchronous circuits	K6
			C302.5	Ability to introduce asynchronous sequential circuits and PLDs	K2
			C302.6	Ability to introduce digital simulation for development of application oriented logic circuits.	K2
3	II-YEAR III-SEM	EE8391-ELECTRO MAGNETIC THEORY	C303.1	Ability to understand the basic mathematical concepts related to electromagnetic vector fields.	K2
			C303.2	Ability to understand the basic concepts about electrostatic fields, electrical potential, energy density and their applications.	K3
			C303.3	Ability to acquire the knowledge in magneto static fields, magnetic flux density, vector potential and its applications.	K3
			C303.4	Ability to understand the different methods of emf generation and Maxwell's equations	K3,K4
			C303.5	Ability to understand the basic concepts electromagnetic waves and characterizing parameters	K3,K4
			C303.6	Ability to understand and compute Electromagnetic fields and apply them for design and analysis of electrical equipment and systems	K3,K4

4	II-YEAR III-SEM	EE8301-ELECTRICAL MACHINES-I	C304.1	Ability to analyze the magnetic-circuits.	K4
			C304.2	Ability to acquire the knowledge in constructional details of transformers.	K2
			C304.3	Ability to understand the concepts of electromechanical energy conversion.	K2
			C304.4	Ability to acquire the knowledge in working principles of DC Generator.	K2
			C304.5	Ability to acquire the knowledge in working principles of DC Motor	K2
			C304.6	Ability to acquire the knowledge in various losses taking place in D.C. Machines	K2,K4
5	II-YEAR III-SEM	EE8353-ELECTRON DEVICES AND CIRCUITS	C305.1	Explain the structure and working operation of basic electronic devices.	K2
			C305.2	Able to identify and differentiate both active and passive elements	K4
			C305.3	Analyze the characteristics of different electronic devices such as diodes and transistors	K4
			C305.4	Choose and adapt the required components to construct an amplifier circuit	K6
			C305.5	Employ the acquired knowledge in design and analysis of oscillators	K4,K6
6	II-YEAR III-SEM	ME8792-POWER PLANT ENGINEERING	C306.1	Explain the layout, construction and working of the components inside a thermal power plant.	K2
			C306.2	Explain the layout, construction and working of the components inside a Diesel, Gas and Combined cycle power plants.	K2
			C306.3	Explain the layout, construction and working of the components inside nuclear power plants.	K2
			C306.4	Explain the layout, construction and working of the components inside Renewable energy power plants	K2
			C306.5	Explain the applications of power plants while extend their knowledge to power plant economics and environmental hazards and estimate the costs of electrical energy	K2,K4

				production.	
7	II-YEAR III-SEM	EC8311-ELECTRONICS LABORATORY	C307.1	Ability to understand and analyze electronic circuits.	K2
8	II-YEAR III-SEM	EE8311-ELECTRICAL MACHINES LABORATORY-I	C308.1	Ability to understand and analyze DC Generator	K2,K4
			C308.2	Ability to understand and analyze DC Generator	K2,K4
			C308.3	Ability to understand and analyze Transformers.	K2,K4

PROGRAMME:ELECTRICAL AND ELECTRONICS ENGINEERING	**DEGREE: U.G**	**ACADEMIC YEAR: 2022-2023**	**SEMESTER: IV**

SL. NO	YEAR/ SEM	COURSENAME	COURSEOUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	II-YEAR IV-SEM	MA8491-NUMERICAL METHOD	C401.1	Understand the basic concepts and techniques of solving algebraic and transcendental equations.	K2,K3
			C401.2	Appreciate the numerical techniques of interpolation and error approximations in various intervals in real life situations.	K2,K3
			C401.3	Apply the numerical techniques of differentiation and integration for engineering problems..	K2,K3
			C401.4	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.	K2,K3
			C401.5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications..	K2,K3
2	II-YEAR IV-SEM	EE8401-ELECTRICAL MACHINES-II	C402.1	Ability to understand the construction and working principle of Synchronous Generator	K2
			C402.2	Ability to understand MMF curves and armature windings.	K2
			C402.3	Ability to acquire knowledge on Synchronous motor.	K2
			C402.4	Ability to understand the construction and working principle of Three phase Induction Motor	K2

			C402.5	Ability to understand the construction and working principle of Special Machines	K2
			C402.6	Ability to predetermine the performance characteristics of Synchronous Machines.	K2,K4
3	II-YEAR IV-SEM	EE8402-TRANSMISSION AND DISTRIBUTION	C403.1	To understand the importance and the functioning of transmission line parameters.	K2
			C403.2	To understand the concepts of Lines and Insulators.	K2
			C403.3	To acquire knowledge on the performance of Transmission lines.	K2,K4
			C403.4	To understand the importance of distribution of the electric power in power system.	K2
			C403.5	To acquire knowledge on Underground Cables	K2
			C403.6	To become familiar with the function of different components used in Transmission and Distribution levels of power system and modeling of these components.	K2,K4
4	II-YEAR IV-SEM	EE8403 - MEASUREMENS AND INSTRUMENTATION	C404.1	To acquire knowledge on Basic functional elements of instrumentation	K2
			C404.2	To understand the concepts of Fundamentals of electrical and electronic instruments	K2
			C404.3	Ability to compare between various measurement techniques	K4
			C404.4	To acquire knowledge on Various storage and display devices	K2
			C404.5	To understand the concepts Various transducers and the data acquisition systems	K2,K3
			C404.6	Ability to model and analyze electrical and electronic Instruments and understand the operational features of display Devices and Data Acquisition System.	K4,K6
5	II-YEAR IV-SEM	EE8451-LINEAR INTEGRATED CIRCUITS AND APPLICATION	C405.1	Ability to acquire knowledge in IC fabrication procedure	K2,K3
			C405.2	Ability to analyze the characteristics of Op-Amp	K4
			C405.3	To understand the importance of Signal analysis using Op-amp based circuits.	K2
			C405.4	Functional blocks and the applications of special ICs like Timers, PLL circuits, regulator Circuits.	K2,K3

			C405.5	To understand and acquire knowledge on the Applications of Op-amp	K2
			C405.6	Ability to understand and analyze, linear integrated circuits their Fabrication and Application	K2,K3,K4
6	II-YEAR IV-SEM	IC8451-CONTROL SYSTEM	C406.1	Ability to develop various representations of system based on the knowledge of Mathematics, Science and Engineering fundamentals.	K1,K2,K4
			C406.2	Ability to do time domain and frequency domain analysis of various models of linear system.	K4
			C406.3	Ability to interpret characteristics of the system to develop mathematical model.	K3,K6
			C406.4	Ability to design appropriate compensator for the given specifications.	K6
			C406.5	Ability to come out with solution for complex control problem	K6
			C406.6	Ability to understand use of PID controller in closed loop system.	K2,K3
7	II-YEAR IV-SEM	EE8411-ELECTRICAL MACHINES LABORATORY-II	C407.1	Ability to understand and analyze EMF and MMF methods	K2.K4
			C407.2	Ability to analyze the characteristics of V and Inverted V curves	K4
			C407.3	Ability to understand the importance of Synchronous machines	K2
			C407.4	Ability to understand the importance of Induction Machines	K2
			C407.5	Ability to acquire knowledge on separation of losses	K2,K4
8	II-YEAR IV-SEM	EE8461-LINEAR AND DIGITAL CIRCUITS LABORATORY	C408.1	Ability to understand and implement Boolean Functions	K2,K3
			C408.2	Ability to understand the importance of code conversion	K2,K3
			C408.3	Ability to Design and implement 4-bit shift registers	K6
			C408.4	Ability to acquire knowledge on Application of Op-Amp	K2,K3
			C408.5	Ability to Design and implement counters using specific counter IC.	K6

PROGRAMME: ELECTRICAL AND ELECTRONICS ENGINEERING	DEGREE: U.G	ACADEMIC YEAR: 2022-2023	SEMESTER: V

SL. NO	YEAR/ SEM	COURSENAME	COURSEOUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	III-YEAR V-SEM	EE8501-POWER SYSTEM ANALYSIS	C501.1	Ability to model the power system under steady state operating condition	K4
			C501.2	Ability to understand and apply iterative techniques for power flow analysis	K2,K3,K5
			C501.3	Ability to model and carry out short circuit studies on power system	K2,K3,K5
			C501.4	Ability to model and analyze stability problems in power system	K2,K3,K5
			C501.5	Ability to acquire knowledge on Fault analysis.	K2,K3,K5
			C501.6	Ability to model and understand various power systems	K2,K3
2	IIIYEAR V-SEM	EE8551-MICROPROCESSORS AND MICROCONTROLLERS	C502.1	Ability to acquire knowledge in Addressing modes & instruction set of 8085 & 8051.	K2,K3
			C502.2	Ability to need & use of Interrupt structure 8085 & 8051.	K2
			C502.3	Ability to understand the importance of Interfacing	K2,K4
			C502.4	Ability to explain the architecture of Microprocessor and Microcontroller	K2
			C502.5	Ability to write the assembly language programme.	K2,K4
			C502.6	Ability to develop the Microprocessor and Microcontroller based applications.	K6
3	III-YEAR V-SEM	EE8552-POWER ELECTRONICS	C503.1	Ability to analyze AC-AC and DC-DC and DC-AC converters.	K2,K4
			C503.2	Ability to choose the converters for real time applications.	K2,K3
			C504.1	Ability to understand the importance of Fourier transform, digital filters and DS Processors.	K2

4	IIIYEAR V-SEM	EE8591-DIGITAL SIGNAL PROCESSING	C504.2	Ability to acquire knowledge on Signals and systems & their mathematical representation.	K2,K4
			C504.3	Ability to understand and analyze the discrete time systems.	K2,K4
			C504.4	Ability to analyze the transformation techniques & their computation.	K2,K4,K5
			C504.5	Ability to understand the types of filters and their design for digital implementation.	K2,K4,K5,K6
			C504.6	Ability to acquire knowledge on programmability digital signal processor & quantization effects.	K2,K3,K4
5	III-YEAR V-SEM	CS8392-OBJECT ORIENTED PROGRAMMING	C505.1	Develop Java programs using OOP principles	K6
			C505.2	Develop Java programs with the concepts inheritance and interfaces	K6
			C505.3	Build Java applications using exceptions and I/O streams	K6
			C505.4	Develop Java applications with threads and generics classes	K6
			C505.5	Develop interactive Java programs using swings	K6
6	IIIYEAR V-SEM	OMD551-BASICS OF BIOMEDICAL INSTRUMENTATION	C506.1	Understand the important and modern methods of imaging techniques	K6
			C506.2	Know the basic concepts of Anatomy & Physiology	K2,K3
			C506.3	Have adequate knowledge about different types Electrodes,Transducers and Amplifiers	K2
			C506.4	Compreherd about the Human Assist Devices and Therapeutic Equipments.	K3,K4
7	IIIYEAR V-SEM	EE8581-CONTROL AND INSTRUMENTATION LABORATORY	C507.1	Ability to understand control theory and apply them to electrical engineering problems.	K2,K3,K4
			C507.2	Ability to analyze the various types of converters.	K4
			C507.3	Ability to design compensators	K6
			C507.4	Ability to understand the basic concepts of bridge networks	K2
			C507.5	Ability to the basics of signal conditioning circuits.	K2
			C507.6	Ability to study the simulation packages	K2,K4

8	IIIYEAR V-SEM	CS8383- OBJECT ORIENTED PROGRAMMING LABORATORY	C508.1	Develop and implement Java programs for simple applications that make use of classes, packages and interfaces.	K6
			C508.2	Develop and implement Java programs with array list, exception handling and multithreading.	K6
			C508.3	Design applications using file processing, generic programming and event handling.	K6

PROGRAMME: ELECTRICAL AND ELECTRONICS ENGINEERING	DEGREE: U.G	ACADEMIC YEAR: 2022-2023	SEMESTER: VI

SL. NO	YEAR/ SEM	COURSENAME	COURSEOUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	III-YEAR VI-SEM	EE8601-SOLID STATE DRIVES	C601.1	Ability to understand and suggest a converter for solid state drive.	K2
			C601.2	Ability to select suitability drive for the given application.	K3
			C601.3	Ability to study about the steady state operation and transient dynamics of a motor load system.	K2,K4
			C601.4	Ability to analyze the operation of the converter/chopper fed dc drive.	K4
			C601.5	Ability to analyze the operation and performance of AC motor drives.	K4
			C601.6	Ability to analyze and design the current and speed controllers for a closed loop solid state DC motor drive	K4,K5,K6
2	III-YEAR VI-SEM	EE8602-PROTECTION AND SWITCH GEAR	C602.1	Ability to understand and analyze Electromagnetic and Static Relays.	K2,K4
			C602.2	Ability to suggest suitability circuit breaker.	K2,K4
			C602.3	Ability to find the causes of abnormal operating conditions of the apparatus and system.	K4
			C602.4	Ability to analyze the characteristics and functions of relays and protection schemes.	K4
			C602.5	Ability to study about the apparatus protection, static and numerical relays	K2
			C602.6	Ability to acquire knowledge on functioning of circuit breaker.	
			C603.1	Ability to understand and analyze Embedded systems.	K2,K4

3	III-YEAR VI-SEM	EE8691-EMBEDDED SYSTEM	C603.2	Ability to suggest an embedded system for a given application.	K3
			C603.3	Ability to operate various Embedded Development Strategies	K3,K6
			C603.4	Ability to study about the bus Communication in processors.	K2
			C603.5	Ability to acquire knowledge on various processor scheduling algorithms.	K2,K3
			C603.6	Ability to understand basics of Real time operating system.	K2,K3
4	III-YEAR VI-SEM	EE8004-MODERN POWER CONVERTERS	C604.1	Ability to suggest converters for AC-DC conversion and SMPS	K2
5	III-YEAR VI-SEM	EE8005-SPECIAL ELECTRICAL MACHINES	C605.1	Ability to analyze and design controllers for special Electrical Machines.	K6
			C605.2	Ability to acquire the knowledge on construction and operation of stepper motor.	K6
			C605.3	Ability to acquire the knowledge on construction and operation of stepper switched reluctance motors.	K2
			C605.4	Ability to construction, principle of operation, switched reluctance motors.	K2
			C605.5	Ability to acquire the knowledge on construction and operation of permanent magnet synchronous motors.	K2
			C605.6	Ability to acquire the knowledge on construction and operation of permanent magnet brushless D.C. motors.	K2
			C605.7	Ability to select a special Machine for a particular application.	K2,K3
6	III-YEAR VI-SEM	EE8661-POWER ELECTRONICS AND DRIVES LABORATORY	C606.1	Ability to practice and understand converter and inverter circuits and apply software For engineering problems.	K2,K3
			C606.2	Ability to experiment about switching characteristics various switches.	K2,K4
			C606.3	Ability to analyze about AC to DC converter circuits.	K4
			C606.4	Ability to analyze about DC to AC circuits.	K4
			C606.5	Ability to acquire knowledge on AC to AC converters	K2

			C606.6	Ability to acquire knowledge on simulation software.	K2,K4
7	III-YEAR VI-SEM	EE8681-MICROPROCESSORS AND MICROCONTROLLERS LABORATORY	C607.1	Ability to understand and apply computing platform and software for engineering problems.	K2,K3
			C607.2	Ability to programming logics for code conversion.	K4
			C607.3	Ability to acquire knowledge on A/D and D/A.	K2
			C607.4	Ability to understand basics of serial communication.	K2
			C607.5	Ability to understand and impart knowledge in DC and AC motor interfacing	K2,K3
			C607.6	Ability to understand basics of software simulators.	K2,K3

PROGRAMME: ELECTRICAL AND ELECTRONICS ENGINEERING	**DEGREE: U.G**	**ACADEMIC YEAR: 2022-2023**	**SEMESTER: VII**

SL. NO	**YEAR/ SEM**	**COURSE NAME**	**COURSE OUTCOMES The students will be able to understand the**		**KNOWLEDGE LEVEL**
1	IV-YEAR VII-SEM	EE8701- HIGH VOLTAGE ENGINEERING	C701.1	Ability to understand Transients in power system.	K2
			C701.2	Ability to understand Generation and measurement of high voltage	K2
			C701.3	Ability to understand High voltage testing	K2
			C701.4	Ability to understand various types of over voltages in power system	K2,K3
			C701.5	Ability to measure over voltages	K4
			C701.6	Ability to test power apparatus and insulation coordination	K2
2	IV-YEAR VII-SEM	EE8702 -POWER SYSTEM OPERATION AND CONTROL	C702.1	Ability to understand the day-to-day operation of electric power system.	K2
			C702.2	Ability to analyze the control actions to be implemented on the system to meet the minute-to-minute variation of system demand.	K2,K4
			C702.3	Ability to understand the significance of power system operation and control	K2
			C702.4	.Ability to acquire knowledge on real power-frequency interaction	K4
			C702.5	Ability to understand the reactive power-voltage interaction	K2,K4

			C702.6	Ability to design SCADA and its application for real time operation.	K6
3	IV-YEAR VII-SEM	EE8703- RENEWABLE ENERGY SYSTEMS	C703.1	Ability to create awareness about renewable Energy Sources and technologies.	K6
			C703.2	Ability to get adequate inputs on a variety of issues in harnessing renewable Energy	K2
			C703.3	Ability to recognize current and possible future role of renewable energy sources	K2
			C703.4	Ability to explain the various renewable energy resources and technologies and their applications.	K2,K3
			C703.5	Ability to understand basics about biomass energy.	K2
			C703.6	Ability to acquire knowledge about solar energy.	K2
4	IV-YEAR VII-SEM	OML751- TESTING OF MATERIALS	C704.1	Identify suitable testing technique to inspect industrial component	K4,
			C704.2	Ability to use the different technique and know its applications and limitations	K4
5	IV-YEAR VII-SEM	GE8071- DISASTER MANAGEMENT	C705.1	Differentiate the types of disasters, causes and their impact on environment and society	K2
			C705.2	Assess vulnerability and various methods of risk reduction measures as well as mitigation	K2
			C705.3	Draw the hazard and vulnerability profile of India, Scenarious in the Indian context Disasterdamage assessment and management	K2
6	IV-YEAR VII-SEM	GE8077-TOTAL QUALITY MANAGEMENT	C706.1	The student would be able to apply the tools and techniques of quality management to manufacturing and services processes.	K2
7	IV-YEAR VII-SEM	EE8711 - POWER SYSTEM SIMULATION LABORATORY	C707.1	Ability to understand power system planning and operational studies.	K2
			C707.2	Ability to acquire knowledge on Formation of Bus Admittance and Impedance Matrices and Solution of Networks.	K4
			C707.3	Ability to analyze the power flow using GS and NR method	K4
			C707.4	Ability to find Symmetric and Unsymmetrical fault	K4
			C707.5	Ability to understand the economic dispatch.	K4
			C707.6	Ability to analyze the electromagnetic transients.	K4

			C708.4	Ability to simulate the various Renewable energy sources	K4
			C708.5	Ability to recognize current and possible future role of Renewable energy sources.	K2
			C708.6	Ability to understand basics of Intelligent Controllers.	K2

PROGRAMME: ELECTRICAL AND ELECTRONICS ENGINEERING	DEGREE: U.G	ACADEMIC YEAR: 2022-2023	SEMESTER: VIII

SL. NO	YEAR/ SEM	COURSENAME	COURSEOUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
9	IV-YEAR VIII-SEM	MG8591-PRINCIPLES OF MANAGEMENT	C801.1	Upon completion of the course, students will be ability to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management.	K3,K4
10	IV-YEAR VIII-SEM	EE8017 - HIGH VOLTAGE DIRECT CURRENT TRANSMISSION SYSTEM	C802.1	Ability to understand the principles and types of HVDC system.	K2,K3
			C802.2	Ability to analyze and understand the concepts of HVDC converters.	K2,K3
			C802.3	Ability to acquire knowledge on DC link control	K3
			C802.4	Ability to understand the concepts of reactive power management, harmonics and power flow analysis..	K3
			C802.5	Ability to get knowledge about Planning of DC power transmission and comparison with AC power transmission.	K3
			C802.6	Ability to understand the importance of power flow in HVDC system under steady state.	K3
11	IV-YEAR VIII-SEM	EE8811- PROJECT WORK	C803.1	On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.	K6

C101 - HS8151- COMMUNICATIVE ENGLISH															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	1	1	1	1	3	3	3	1	3	-	3	-	-	-
2	1	1	1	1	1	3	3	3	1	3	-	3	-	-	-
3	2	3	2	3	2	3	3	3	2	3	3	3	-	-	-
4	2	3	2	3	2	3	3	3	2	3	3	3	-	-	-
5	2	3	3	3	-	3	3	3	2	3	-	3	-	-	-
Avg	1.6	2.2	1.8	2.2	1.5	3	3	3	1.6	3	3	3	-	-	-

C102 -MA8151- ENGINEERING MATHEMATICS - I															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	1	1	0	0	0	0	2	0	2	3	-	-	-
2	3	3	1	1	0	0	0	0	2	0	2	3	-	-	-
3	3	3	1	1	0	0	0	0	2	0	2	3	-	-	-
4	3	3	1	1	0	0	0	0	2	0	2	3	-	-	-
5	3	3	1	1	0	0	0	0	2	0	2	3	-	-	-
Avg	3	3	1	1	0	0	0	0	2	0	2	3	-	-	-

C103-PH8151- ENGINEERING PHYSICS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	2	1	1	1	-	-	-	-	-	-	-	-	-
2	3	3	2	1	2	1	-	-	-	-	-	-	-	-	-
3	3	3	2	2	2	1	-	-	-	-	-	1	-	-	-
4	3	3	1	1	2	1	-	-	-	-	-	-	-	-	
5	3	3	1	1	2	1	-	-	-	-	-	-	-	-	-
Avg	3	3	1.6	1.2	1.8	1	-	-	-	-	-	1	-	-	-

C104-CY8151- ENGINEERING CHEMISTRY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	1	-	1	1	-	-	-	-	1	-	-	-
2	2	-	-	1	-	2	2	-	-	-	-	-	-	-	-
3	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4	3	1	1	-	-	1	2	-	-	-	-	-	-	-	-
5	3	1	2	1	-	2	2	-	-	-	-	2	-	-	-
Avg	2.8	1.3	1.6	1	-	1.5	1.8	-	-	-	-	1.5	-	-	-

C105-GE8151- PROBLEM SOLVING AND PYTHON PROGRAMMING														
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
1	3	3	3	3	2	-	-	-	-	-	2	2	3	3
2	3	3	3	3	2	-	-	-	-	-	2	2	3	-
3	3	3	3	3	2	-	-	-	-	-	2	-	3	-
4	2	2	-	2	2	-	-	-	-	-	1	-	3	-
5	1	2	-	-	1	-	-	-	-	-	1	-	2	-
6	2	2	-	-	2	-	-	-	-	-	1	-	2	-
Avg	2	3	3	3	2	-	-	-	-	-	2	2	3	3

C106-GE8152 -ENGINEERING GRAPHICS															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
2	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-
3	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
4	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-
5	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
Avg	3	2.4	2.6	1	1	-	-	-	-	-	-	-	-	-	-

C107-GE8161- PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	3	3	3	-	-	-	-	-	3	2	3	3	-
2	3	3	3	3	3	-	-	-	-	-	3	2	3	-	-
3	3	3	3	3	2	-	-	-	-	-	2	-	3	-	-
4	3	2	-	2	2	-	-	-	-	-	1	-	3	-	-
5	1	2	-	-	1	-	-	-	-	-	1	-	2	-	-
Avg.	**2.6**	**1.3**	**1.6**	**1**	**1**	**1.4**	**1.8**	**-**	**-**	**-**	**-**	**1.3**	**-**	**-**	**-**

C108-BS8161- PHYSICS AND CHEMISTRY LABORATORY															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	3	3	1	3	3	3	3	3	3	3	-	-	-
2	3	3	3	3	1	3	3	3	3	3	3	3	-	-	-
3	3	3	3	3	1	3	3	3	3	3	3	3	-	-	-
4	3	3	3	3	1	3	3	3	3	3	3	3	-	-	-
5	3	3	3	3	1	3	3	3	3	3	3	3	-	-	-
Avg	3	3	3	3	1	3	3	3	3	3	3	3	-	-	-

C109-HS8251 -TECHNICAL ENGLISH															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	3	3	3	3	2	3	3	3	-	-	-
2	3	3	3	3	3	3	3	3	2	3	3	3	-	-	-
3	3	3	3	3	3	3	3	3	2	3	3	3	-	-	-
4	3	3	3	3	2	3	3	3	2	3	3	3	-	-	-
5	-	-	-	-	-	-	-	-	3	3	3	3	-	-	-
AVg.	3	3	3	3	2.75	3	3	3	2.2	3	3	3	-	-	-

C110-MA8251 ENGINEERING MATHEMATICS - II															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	1	1	1	0	0	0	2	0	2	3	-	-	-
2	3	3	1	1	1	0	0	0	2	0	2	3	-	-	-
3	3	3	1	1	1	0	0	0	2	0	2	3	-	-	-
4	3	3	1	1	1	0	0	0	2	0	2	3	-	-	-
5	3	3	1	1	1	0	0	0	2	0	2	3	-	-	-
Avg	3	3	1	1	1	0	0	0	2	0	2	3	-	-	-

C111-PH8253- PHYSICS FOR ELECTRONICS ENGINEERING															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	-	-	1	-	-	-	-	-	-	-	-	-
2	3	2	1	-	-	1	-	-	-	-	-	-	-	-	-
3	3	2	1	-	-	1	-	-	-	-	-	-	-	-	-
4	3	2	1	-	-	1	-	-	-	-	-	-	-	-	-
5	3	2	1	-	-	1	-	-	-	-	-	-	-	-	-
Avg.	3	2	1			1	-	-	-	-	-	-	-	-	-

C112-BE8252- BASIC CIVIL AND MECHANICAL ENGINEERING															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	-	-	1	-	-	1	2	1	2	-	1	-	-	-
2	2	-	-	-	-	-	1	2	1	2	-	2	-	-	-
3	2	-	-	-	-	-	1	2	2	2	-	2	-	-	-
4	2	-	-	-	-	-	1	2	1	2	-	2	-	-	-
5	2	-	-	-	-	-	1	2	1	2	-	2	-	-	-
Avg.	2	-	-	0.2	-	-	1	2	1.2	2	-	1.8	-	-	-

C113-EE8251 -CIRCUIT THEORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
2	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
3	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
4	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
5	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
Avg	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-

C114-GE8291 -ENVIRONMENTAL SCIENCE AND ENGINEERING															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	2	2	-	2	1	-	-	-	3	3	3	3
2	3	3	3	3	2	-	2	1	-	-	-	3	3	3	3
3	3	3	3	3	2	-	2	1	-	-	-	3	3	3	3
4	3	3	3	3	2	-	2	1	-	-	-	3	3	3	3
5	3	3	3	3	2	-	2	1	-	-	-	3	3	3	3
Avg	3	3	3	3	2	-	2	1	-	-	-	3	3	3	3

C115-GE8261- ENGINEERING PRACTICES LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	-	-	1	1	1	-	-	-	-	2	2	1	1
2	3	2	-	-	1	1	1	-	-	-	-	2	2	1	1
3	3	2	-	-	1	1	1	-	-	-	-	2	2	1	1
Avg	3	2	-	-	1	1	1	-	-	-	-	2	2	1	1

C116-EE8261- ELECTRIC CIRCUITS LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	3	-	2	1.5	3	-	-	3	3	3	2
2	3	3	3	3	3	-	2	1.5	3	-	-	3	3	3	2
3	3	3	3	3	3	-	2	1.5	3	-	-	3	3	3	2
4	3	3	3	3	3	-	2	1.5	3	-	-	3	3	3	2
5	3	3	3	3	3	-	2	1.5	3	-	-	3	3	3	2
Avg	3	3	3	3	3	-	2	1.5	3	-	-	3	3	3	2

C201-MA8353 -TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	0	0	0	0	0	0	2	0	0	2	2	1	3
2	2	2	0	0	0	0	0	0	2	0	1	2	2	2	0
3	3	2	0	0	0	0	0	0	2	0	0	2	3	2	2
4	2	3	0	0	0	0	0	0	2	0	1	2	2	3	1
5	3	3	0	0	0	0	0	0	2	0	1	3	2	2	1
Avg	2.6	2.6	0	0	0	0	0	0	2	0	0.6	2	2	2	1

C202- EE8351- DIGITAL LOGIC CIRCUITS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	3	2	1	3	-	-	1	-	-	-	1	2	-	1
2	3	2	3	1	3	-	-	1	-	-	-	1	3	-	1
3	2	3	2	1	2	-	-	1	-	-	-	1	3	-	1
4	3	2	3	1	3	-	-	1	-	-	-	1	2	-	1
5	3	3	3	1	3	-	-	1	-	-	-	1	3	-	1
Avg	2.6	2.6	2.6	1	2.8	0	0	1	0	0	0	1	2.6	0	1

C203-EE8391 - ELECTROMAGNETIC THEORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	-	-	-	-	3	1	-	-	-	1	3	2	1
2	2	2	1	2	-	-	1	1	-	-	-	1	3	2	1
3	3	2	1	2	-	-	1	1	-	-	-	1	2	2	1
4	2	2	1	2	-	-	1	1	-	-	-	1	3	2	1
5	3	1	1	2	-	-	1	1	-	-	-	1	3	2	1
Avg	2.6	1.6	1	2	0	0	1	1	0	0	0	1	2.8	2	1

C204-EE8301 - ELECTRICAL MACHINES - I															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	3	1	1	1	-	-	1	-	-	-	1	3	2	2
2	3	2	1	1	1	-	-	1	-	-	-	1	3	1	1
3	2	3	1	1	1	-	-	1	-	-	-	1	2	1	3
4	3	3	1	1	1	-	-	1	-	-	-	1	3	3	3
5	3	2	1	1	1	-	-	1	-	-	-	1	2	2	1
Avg	2.6	2.6	1	1	1	0	0	1	0	0	0	1	2.6	1.8	2

C205-EC8353- ELECTRON DEVICES AND CIRCUITS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	2	2	2	-	-	1	-	-	-	1	2	-	1
2	2	2	3	2	2	-	-	1	-	-	-	1	3	-	1
3	2	2	2	2	2	-	-	1	-	-	-	1	3	-	1
4	2	2	3	2	2	-	-	1	-	-	-	1	2	-	1
5	2	2	3	2	2	-	-	1	-	-	-	1	3	-	1
Avg	2	2	2.6	2	2	0	0	1	0	0	0	1	2.6	0	1

C206-ME8792 -POWER PLANT ENGINEERING															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	2	1	1	1	-	1	2	1	2	1	1	3
2	2	3	1	1	2	-	-	-	2	1	2	2	2	2	2
3	2	2	1	2	3	-	-	-	3	2	1	1	1	1	2
4	2	1	-	1	2	-	-	-	2	1	2	2	2	3	1
5	3	2	1	2	1	1	1	-	3	2	3	3	2	2	3
Avg	2	2	1	1.6	1.8	1	1	0	2	1.6	1.8	2	1.6	1.8	2

C207-EC8311- ELECTRONICS LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	1	1	1	-	-	1	-	-	-	1	3	2	2
2	3	3	1	1	1	-	-	1	-	-	-	1	3	1	1
3	3	3	1	1	1	-	-	1	-	-	-	1	3	1	1
4	3	3	1	1	1	-	-	1	-	-	-	1	3	3	2
5	3	3	1	1	1	-	-	1	-	-	-	1	3	3	2
Avg	3	3	1	1	1	-	-	1	-	-	-	1	3	3	2

C208-EE8311 - ELECTRICAL MACHINES LABORATORY - I															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	-	3	3	-	-	1.5	-	-	3	-	-	3	3
2	-	-	3	3	3	-	-	1.5	-	-	3	-	-	3	3
3	-	3	2	3	-	-	-	1.5	-	-	3	-	-	3	3
4	-	3	3	3	-	-	-	1.5	-	-	3	-	-	3	3
5	-	-	-	-	3	-	-	1.5	-	-	-	-	-	3	3
Avg	-	-	-	-	3	-	-	1.5	-	-	-	-	-	3	3

C209-MA8491- NUMERICAL METHODS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	3	1	2	2	1	1	-	1	2	1	3	2	1	3
2	1	2	1	2	2	-	-	-	1	1	1	2	2	2	2
3	2	3	1	2	3	-	-	-	1	1	1	2	2	1	2
4	2	1	-	1	1	-	-	-	2	1	1	2	2	3	1
5	1	2	1	2	2	1	1	-	1	2	1	3	2	2	3
Avg	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2

C210-EE8401 - ELECTRICAL MACHINES - II												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	2	3	1	2	2	1	1	-	1	2	1	3
2	1	2	1	2	2	-	-	-	1	1	1	2
3	2	3	1	2	3	-	-	-	1	1	1	2
4	2	1	-	1	2	-	-	-	2	1	1	2
5	1	2	1	2	1	1	1	-	1	2	1	3
Avg	1.6	2	1	1.8	2	1	1	0	1	1	1	2

C211-EE8402 -TRANSMISSION AND DISTRIBUTION															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	2	2	-	-	-	1	-	-	-	1	-	2
2	3	3	3	2	2	-	-	-	1	-	-	-	1	1	1
3	1	3	3	2	3	-	-	-	1	-	-	1	1	1	1
4	3	2	2	1	2	-	-	-	1	-	-	1	1	1	2
5	3	3	2	2	1	-	-	-	1	-	-	1	1	1	1
Avg	2.6	2.6	2	1.8	2	0	0	0	1	0	0	1	1	1	1

C212- EE8403 - MEASUREMENTS AND INSTRUMENTATION															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	3		-	1	1	2	-	-	-	2	1	1	1	-
2	2	2	2		-	-	2	1	-	-	1	-	2	-	-
3	1	3		-	-	1	3	1	-	-	1	2	1	2	-
4	2	2	1	-	1	-	3	-	-	-	2	1	1	-	-
5	2	2	-		1	-	2	-	-	-	2	-	2	-	-
Avg	1.8	2	1.5	0	1	1	2	1	0	0	1.6	1	1	1.5	0

C213-EE8451 - LINEAR INTEGRATED CIRCUITS AND APPLICATIONS												
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
1	2	3		-	1	1	2	-	-	-	-	1
2	2	2	2		-	-	2	1	-	-	2	-
3	1	3		-	-	1	3	1	-	-	1	2
4	2	2	1	-	1	-	3	-	-	-	2	-
5	2	2	-		1	-	2	-	-	-	1	-
Avg	**1.8**	**2**	**1.5**	**0**	**1**	**1**	**2**	**1**	**0**	**0**	**1.5**	**1.5**

C214-IC8451-CONTROL SYSTEMS														
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	3		-	1	1	2	-	-	-	-	-	1	1	-
2	2	2	2		-	-	2	1	-	-	-	-	2	-	-
3	1	3		-	-	1	3	1	-	-	-	2	1	2	-
4	2	2	1	-	1	-	3	-	-	-	1	-	1	-	-
5	2	2	-		1	-	2	-	-	-	1	-	2	-	-
Avg.	1.8	2	1.5	0	1	1	2	1	0	0	1	2	1	1.5	0

C215-EE8411- ELECTRICAL MACHINES LABORATORY - II														
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	3		-	1	1	2	-	-	-	-	-	1	1	-
2	2	2	2		-	-	2	1	-	-	-	-	2	-	-
3	1	3		-	-	1	3	1	-	-	-	2	1	2	-
4	2	2	1	-	1	-	3	-	-	-	1	-	1	-	-
5	2	2	-		1	-	2	-	-	-	1	-	2	-	-
Avg.	1.8	2	1.5	0	1	1	2	1	0	0	1	2	1	1.5	0

C216-EE8461- LINEAR AND DIGITAL INTEGRATED CIRCUITS LABORATORY														
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	3		-	1	1	2	-	-	-	-	-	1	1	-
2	2	2	2		-	-	2	1	-	-	-	-	2	-	-
3	1	3		-	-	1	3	1	-	-	-	2	1	2	-
4	2	2	1	-	1	-	3	-	-	-	1	-	1	-	-
5	2	2	-		1	-	2	-	-	-	1	-	2	-	-
Avg.	1.8	2	1.5	0	1	1	2	1	0	0	1	2	1	1.5	0

C301-EE8501-POWER SYSTEM ANALYSIS															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	2	2	2	2	-	-	-	1	-	-	-	1	-	2
2	3	3	3	2	2	-	-	-	1	-	-	-	1	1	1
3	1	3	3	2	3	-	-	-	1	-	-	1	1	1	1
4	3	2	2	1	2	-	-	-	1	-	-	1	1	1	2
5	3	3	2	2	1	-	-	-	1	-	-	1	1	1	1
Avg	**2.60**	**2.60**	**2.40**	**1.80**	**2.00**	**0.00**	**0.00**	**0.00**	**1.00**	**0.00**	**0.00**	**1.00**	**1.00**	**1.00**	**1.40**

C302-EE8551 - MICROPROCESSORS AND MICROCONTROLLERS															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	3		-	1	1	2	-	-	-	2	1	1	1	-
2	2	2	2		-	-	2	1	-	-	1	-	2	-	-
3	1	3		-	-	1	3	1	-	-	1	2	1	2	-
4	2	2	1	-	1	-	3	-	-	-	2	1	1	-	-
5	2	2	-		1	-	2	-	-	-	2	-	2	-	-
Avg	**1.80**	**2.40**	**1.50**	**0.00**	**1.00**	**1.00**	**2.40**	**1.00**	**0.00**	**0.00**	**1.60**	**1.33**	**1.40**	**1.50**	**0.00**

C303-EE8552-POWER ELECTRONICS															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	3		-	1	1	2	-	-	-	-	1	1	1	-
2	2	2	2		-	-	2	1	-	-	2	-	2	-	-
3	1	3		-	-	1	3	1	-	-	1	2	1	2	-
4	2	2	1	-	1	-	3	-	-	-	2	-	1	-	-
5	2	2	-		1	-	2	-	-	-	1	-	2	-	-
AVg	**1.80**	**2.40**	**1.50**	**0.00**	**1.00**	**1.00**	**2.40**	**1.00**	**0.00**	**0.00**	**1.50**	**1.50**	**1.40**	**1.50**	**0.00**

C304-EE8591-DIGITAL SIGNAL PROCESSING															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	3		-	1	1	2	-	-	-	-	-	1	1	-
2	2	2	2		-	-	2	1	-	-	-	-	2	-	-
3	1	3		-	-	1	3	1	-	-	-	2	1	2	-
4	2	2	1	-	1	-	3	-	-	-	1	-	1	-	-
5	2	2	-		1	-	2	-	-	-	1	-	2	-	-
AVg	**1.80**	**2.40**	**1.50**	**0.00**	**1.00**	**1.00**	**2.40**	**1.00**	**0.00**	**0.00**	**1.00**	**2.00**	**1.40**	**1.50**	**0.00**

C305-CS8392 - OBJECT ORIENTED PROGRAMMING															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	3	1	2	2	1	1	-	1	2	1	3	2	1	3
2	1	2	1	2	2	-	-	-	1	1	1	2	2	2	2
3	2	3	1	2	3	-	-	-	1	1	1	2	2	1	2
4	2	1	-	1	2	-	-	-	2	1	1	2	2	3	1
5	1	2	1	2	1	1	1	-	1	2	1	3	2	2	3
Avg	**1.60**	**2.20**	**1.00**	**1.80**	**2.00**	**1.00**	**1.00**	**0.00**	**1.20**	**1.40**	**1.00**	**2.40**	**2.00**	**1.80**	**2.20**

C306-OMD551-BASICS OF BIOMEDICAL INSTRUMENTATION															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	2	1	2	1	1	1	-	1	2	1	2	1	1	3
2	1	3	1	1	2	-	-	-	2	1	2	2	2	2	2
3	2	2	1	2	3	-	-	-	1	2	1	1	1	1	2
4	1	1	-	1	2	-	-	-	2	1	2	2	2	3	1
5	1	2	1	2	1	1	1	-	1	2	1	3	2	2	3
AVg	**1.40**	**2.00**	**1.00**	**1.60**	**1.80**	**1.00**	**1.00**	**0.00**	**1.40**	**1.60**	**1.40**	**2.00**	**1.60**	**1.80**	**2.20**

C307-EE8581-CONTROL AND INSTRUMENTATION LABORATORY															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
2	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
3	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
4	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
5	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
AVg	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3

C308-CS8383- OBJECT ORIENTED PROGRAMMING LABORATORY															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
2	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
3	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
4	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
5	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3
AVg	3	3	3	3	3	-	-	1.5	-	-	-	2	3	3	3

C310-EE8601-SOLID STATE DRIVES															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	1	1	-	3	2	2	-	-	-	2	1	1	1	-
2	1	2	2		-	-	2	1	-	-	3	-	2	-	-
3	2	3	2	-	-	2	3	1	-	-	3	2	1	1	-
4	2	2	1	-	2	-	3	-	-	-	1	1	1	-	-
5	2	2	-		2	-	2	-	-	-	2	-	2	-	-
AVg	**1.80**	**2.00**	**1.50**	**0.00**	**2.33**	**2.00**	**2.40**	**1.00**	**0.00**	**0.00**	**2.20**	**1.33**	**1.40**	**1.00**	**0.00**

C311-EE8602-PROTECTION and SWITCH GEAR															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	1	1	2	1	2	1	1	1	1	2	2	3	1	-
2	3	2	2	2	2	1	2	3	1	1	2	2	2	-	-
3	3	3	1	2	2	1	3	3	2	2	1	2	1	2	-
4	3	1	3	2	1	2	3	2	2	1	2	1	1	-	-
5	3	1	1	2	1	2	2	1	3	-	1	-	2	-	-
AVg	**3.00**	**1.60**	**1.60**	**2.00**	**1.40**	**1.60**	**2.20**	**2.00**	**1.80**	**1.25**	**1.60**	**1.75**	**1.80**	**1.50**	**0.00**

C312-EE8691-EMBEDDED SYSTEM															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	2	2	2	1	1	2	-	-	1	-	-	2	1	2
2	3	2	2	2	1	-	-	1	-	-	-	-	2	-	3
3	3	3	3	3	1	-	-	1	-	-	-	2	2	2	2
4	3	2	3	2	1	-	1	-	1	-	1	-	1	-	-
5	3	1	2	3	1	-	1	-	-	-	1	-	3	-	2
AVg	**3.00**	**2.00**	**2.40**	**2.40**	**1.00**	**1.00**	**1.33**	**1.00**	**1.00**	**1.00**	**1.00**	**2.00**	**2.00**	**1.50**	**2.25**

C313-EE8004-MODERN POWER CONVERTS															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	-	3	3	2	2	1	-	1	1	1	2	2	1	2
2	3	-	3	3	2	2	1	-	1	2	1	1	1	2	1
3	3	-	3	3	2	2	-	1	1	1	1	2	2	1	2
4	3	-	3	3	2	2	-	-	2	1	2	2	1	3	1
5	3	-	3	3	2	2	1	-	1	2	1	3	2	2	3
AVg	**3.00**	**0.00**	**3.00**	**3.00**	**2.00**	**2.00**	**1.00**	**1.00**	**1.20**	**1.40**	**1.20**	**2.00**	**1.60**	**1.80**	**1.80**

C314-EE8005-SPECIAL ELECTRICAL MACHINES															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	1	-	-	-	-	-	-	1	-	1	-	1	3	2	1
2	2	2	1	1	-	-	2	1	-	2	-	3	3	3	3
3	2	-	-	-	-	-	-	1	-	1	-	1	3	3	3
4	2	2	3	3	-	-	-	1	-	3	-	3	3	3	3
5	3	3	2	1	1	-	3	1	-	3	-	3	3	3	3
AVg	**2.00**	**2.33**	**2.00**	**1.67**	**1.00**	**0.00**	**2.50**	**1.00**	**0.00**	**2.00**	**0.00**	**2.20**	**3.00**	**2.80**	**2.60**

C315-EE8661-POWER ELECTRONICS AND DRIVES LABORATORY															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	3	3	3	-	-	1.5	-	-	-	3	3	3	3
2	3	3	3	3	3	-	-	1.5	-	-	-	3	3	3	3
3	3	3	3	3	3	-	-	1.5	-	-	-	3	3	3	3
4	3	3	3	3	3	-	-	1.5	-	-	-	3	3	3	3
5	3	3	3	3	3	-	-	1.5	-	-	-	3	3	3	3
AVg	3	3	3	3	3	-	-	1.5	-	-	-	3	3	3	3

C316-EE8681-MICROPROCESSORS AND MICROCONTROLLERSLABORATORY															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
2	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
3	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
4	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
5	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
AVg	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3

C317-EE8611- MINI PROJECT															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	3	3	-	-	-	-	-	-	-	-	3	3	3
2	-	-	-	-	3	3	-	-	-	-	-	-	3	-	-
3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	3
4	-	-	-	-	-	-	-	3	3	3	3	-	-	-	3
5	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3
AVg	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**

C401-EE8701- HIGH VOLTAGE ENGINEERING															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	2	-	-	-	-	-	-	-	-	-	-	3	2	-
2	3	2	-	1	-	-	-	-	-	-	-	-	3	-	-
3	2	2	3	1	-	-	-	-	-	-	2	3	3	2	-
4	1	2	3	1	-	-	-	1	1	-	-	3	3	2	-
5	2	2	1	-	-	2	-	-	-	-	2	-	3	-	3
AVg	**2.00**	**2.00**	**2.33**	**1.00**	**0.00**	**2.00**	**0.00**	**1.00**	**1.00**	**0.00**	**2.00**	**3.00**	**3.00**	**2.00**	**3.00**

C402-EE8702- POWER SYSTEM OPERATION AND CONTROL															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	1	-	-	-	-	-	1	-	-	-	2	3	3	3
2	3	2	1	1	-	1	-	2	-	2	-	2	3	3	3
3	3	2	1	1	-	1	-	2	-	2	-	2	3	3	3
4	3	2	1	1	-	1	-	2	-	2	-	2	3	1	2.33
5	2	1	-	-	-	-	-	1	1	2	-	2	3	3	3
AVg	**2.60**	**1.60**	**1.00**	**1.00**	**0.00**	**1.00**	**0.00**	**1.60**	**1.00**	**2.00**	**0.00**	**2.00**	**3.00**	**2.60**	**2.87**

C403-EE8703 - RENEWABLE ENERGY SYSTEMS															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	1	1	1	1	1	2	3	2	2	1	1	3	2	1	2
2	3	2	2	1	1	1	3	1	1	1	2	3	2	1	2
3	3	2	3	1	2	1	3	1	1	1	1	3	1	1	2
4	2	2	2	1	2	1	3	1	1	1	2	3	2	2	2
5	2	1	2	1	2	1	3	1	1	1	1	3	2	1	2
AVg	**2.20**	**1.60**	**2.00**	**1.00**	**1.60**	**1.20**	**3.00**	**1.20**	**1.20**	**1.00**	**1.40**	**3.00**	**1.80**	**1.20**	**2.00**

C404-OML751 - TESTING OF MATERIALS															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	-	3	-	-	-	-	-	-	2	-	-	3	2	-	2
2	-	2	2		-	3	-	2	-	2	-	2	-	2	-
3	2	-	-	-	3	-	-	-	3	-	-	-	-	2	3
4	-	2	-	2	2	2	3	2	-	-	-	3	2	-	-
5	-	-	3	-	-	3	3	2	-	-	-	-	-	-	-
AVg	**2.00**	**2.33**	**2.50**	**2.00**	**2.50**	**2.67**	**3.00**	**2.00**	**2.50**	**2.00**	**0.00**	**2.67**	**2.00**	**2.00**	**2.50**

C405-GE8071 – DISASTER MANAGEMENT															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	-	2	-	-	-	2	2	-	1	1	2	2	2	1
2	3	-	-		-	-	2	-	-	1	1	2	1	2	2
3	3	-	-	-	-	-	2	3	-	1	1	2	1	2	2
4	3	-	3	-	-	-	2	-	-	1	1	2	2	2	1
5	3	2	3		-	-	2	2	-	1	1	2	2	2	1
AVg	**3.00**	**2.00**	**2.67**	**0.00**	**0.00**	**0.00**	**2.00**	**2.33**	**0.00**	**1.00**	**1.00**	**2.00**	**1.60**	**2.00**	**1.40**

C406-GE8077-TOTAL QUALITY MANAGEMENT															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	-	3	-	-	-	-	-	-	-	-	-	3	2	-	3
2	-	-	-		-	3	-	-	-	-	-	3	-	3	-
3	-	-	-	-	3	-	-	-	3	-	-	-	-	2	3
4	-	2	-	-	3	2	3	2	-	-	-	3	3	-	-
5	-	-	3	-	-	3	3	2	-	-	-	-	-	-	-
AVg	**0.00**	**2.50**	**3.00**	**0.00**	**3.00**	**2.67**	**3.00**	**2.00**	**3.00**	**0.00**	**0.00**	**3.00**	**2.50**	**2.50**	**3.00**

C407-EE8711- POWER SYSTEM SIMULATION LABORATORY															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	2	2	3	-	-	2	1	2	-	3	3	3	3
2	3	3	2	2	3	-	-	2	1	2	-	3	3	3	3
3	3	3	2	2	3	-	-	2	1	2	-	3	3	3	3
4	3	3	2	2	3	-	-	2	1	2	-	3	3	3	3
5	3	3	2	2	3	-	-	2	1	2	-	3	3	3	3
AVg	3	3	2	2	3	-	-	2	1	2	-	3	3	3	3

C408-EE8712- RENEWABLE ENERGY SYSTEMS LABORATORY															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	3	3	3	-	-	2	-	-	-	3	3	3	3
2	3	3	3	3	3	-	-	2	-	-	-	3	3	3	3
3	3	3	3	3	3	-	-	2	-	-	-	3	3	3	3
4	3	3	3	3	3	-	-	2	-	-	-	3	3	3	3
5	3	3	3	3	3	-	-	2	-	-	-	3	3	3	3
AVg	3	3	3	3	3	-	-	2	-	-	-	3	3	3	3

C409-MG8591- PRINCIPLES OF MANAGEMENT															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	-	-	-	-	1	-	-	-	-	-	-	2	1	1
2	-	1	1	-	-	-	-	-	-	-	-	-	2	1	-
3	1	-	-	2	-	-	1	1	2	-	1	1	-	-	2
4	-	1	1	1	2	-	-	-	2	-	-	-	1	1	1
5	1	-	-	-	-	1	-	1	-	3	-	1	1	-	1
AVg	**1.66**	**1**	**1**	**1.5**	**1.5**	**1**	**1**	**1**	**2**	**3**	**1**	**1**	**1.5**	**1**	**1.25**

C410-EE8017- HIGH VOLTAGE DIRECT CURRENT TRANSMISSION SYSTEM															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
2	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
3	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
4	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
5	2	1	2	3	-	-	-	1	-	-	-	3	3	1	3
AVg	**2.00**	**1.00**	**2.00**	**3.00**	**0.00**	**0.00**	**0.00**	**1.00**	**0.00**	**0.00**	**0.00**	**3.00**	**3.00**	**1.00**	**3.00**

C411-EE8811-PROJECT WORK															
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	3	3	3	3	-	-	-	-	-	-	-	-	3	3	3
2	-	-	-	-	3	3	-	-	-	-	-	-	3	-	-
3	-	-	-	-	-	-	3	-	3	-	-	-	-	-	3
4	-	-	-	-	-	-	-	3	3	3	3	-	-	-	3
5	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3
AVg	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**