AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING

Approved by All Inda Council for Technical Education - New Delhi Affilitated to Anna University, Chennai
NACC Accredited Institution
"Nizara Educational Campus", Muthapudupet, Avadi - IAF, Chennai - 600 055.

ELECTRICAL AND ELECTRONICS ENGINEERING															
EE3251	ELECTRIC CIRCUIT ANALYSIS														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	3	2									1	1	1
CO2	1	3	3	3	1	1	1					1	2	2	2
CO3	2	3	3	3	1		1					2	2	2	2
CO4	2	3	2	3	1							2	1	2	2
CO5	1	2	2	2	2							1	2	1	1
AVG	1.6	2.4	2.6	2.6	1.25	1	1					1.5	1.6	1.6	1.6
DA	1.20	1.80	1.94	1.94	0.94	0.75	0.75	0.00	0.00	0.00	0.00	1.12	1.20	1.20	1.20
IDA	1.36	2.04	2.20	2.20	1.06	0.85	0.85	0.00	0.00	0.00	0.00	1.27	1.36	1.36	1.36

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Explain circuit's behavior using circuit laws.
CO2	Compute the transient response of first order and second order systems to step and sinusoidal systems
CO3	Cpompute power, line/Phase voltage and current of the given three phase circuit
CO4	Explain the frequency response of series and parallel RLC circuits
CO5	Explain the behavior of magnetically coupled circuits

CIVIL ENGINEERING															
BE3252	BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	3	3									1	2	2
CO2	1	2	2	2	2	1	1					1	2	2	2
CO3	2	3	3	3	2		1					2	2	2	2
CO4	1	3	3	3	1							2	2	2	2
CO5	1	1	1	1	1							1	2	2	2
AVG	1.4	2.4	2.4	2.4	1.5	1	1					1.5	1.8	2	2
DA	1.05	1.80	1.80	1.80	1.12	0.75	0.75	0.00	0.00	0.00	0.00	1.12	1.35	1.50	1.50
IDA	1.19	2.04	2.04	2.04	1.27	0.85	0.85	0.00	0.00	0.00	0.00	1.27	1.53	1.70	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Compute the electric circuit parameters for simple problems
CO2	Explain the concepts of domestics wiring and protective devices
CO3	Explain the working principle and applications of electrical machines
CO4	Analyze the characteristics of analog electronic devices
CO5	Explain the types and operating principles of sensors and transducers

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COMPUTER SCIENCE ENGINEERING															
BE3251	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	1										1	2	1
CO2	1	2	2	2	2		1				1	1	2	2	2
CO3	1	3	2	3	2	2						2	1	2	1
CO4	1	2	3	2	1							2	2	2	2
CO5	3	2	2	2	2							1	1	2	2
AVG	1.6	2.4	2	2.25	1.75	2	1				1	1.5	1.4	2	1.6
DA	1.20	1.80	1.50	1.68	1.31	1.50	0.75	0.00	0.00	0.00	0.75	1.12	1.05	1.50	1.20
IDA	1.36	2.04	1.70	1.91	1.48	1.70	0.85	0.00	0.00	0.00	0.85	1.27	1.19	1.70	1.36

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Compute the electric circuit parameters for simple problems
CO2	Explain the working principle and applications of electrical machines
CO3	Analyze the characteristics of analog electronic devices
CO4	Explain the basic concepts of digital electronics
CO5	Explain the operating principles of measuring instruments

ELECTRONICS AND COMMUNICATION ENGINEERING															
BE3254	ELECTRICAL AND INSTRUMENTATION ENGINEERING														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	1										1	1	1
CO2	1	2	3	2	2		1				1	1	2	2	2
CO3	1	3	3	2	2	2						2	1	2	2
CO4	1	2	3	3	3							2	2	2	2
CO5	2	2	2	2	2							1	2	1	1
AVG	1.4	2.2	2.4	2.25	2.25	2	1				1	1.5	1.6	1.6	1.6
DA	1.05	1.65	1.80	1.68	1.68	1.50	0.75	0.00	0.00	0.00	0.75	1.12	1.20	1.20	1.20
IDA	1.19	1.87	2.04	1.91	1.91	1.70	0.85	0.00	0.00	0.00	0.85	1.27	1.36	1.36	1.36

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Explain the working principle of electrical machines
CO2	Analyze the output characterizes of electrical machines
CO3	Choose the appropriate electrical machines for various applications
CO4	Explain the types and operating principles of measuring instruments
CO5	Explain the basic power system structure and protection schemes

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MECHANICAL ENGINEERING															
BE3251	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	1										1	2	1
CO2	1	2	2	2	2		1				1	1	2	2	2
CO3	1	3	2	3	2	2						2	1	2	1
CO4	1	2	3	2	1							2	2	2	2
CO5	3	2	2	2	2							1	1	2	2
AVG	1.6	2.4	2	2.25	1.75	2	1				1	1.5	1.4	2	1.6
DA	1.20	1.80	1.50	1.68	1.31	1.50	0.75	0.00	0.00	0.00	0.75	1.12	1.05	1.50	1.20
IDA	1.36	2.04	1.70	1.91	1.48	1.70	0.85	0.00	0.00	0.00	0.85	1.27	1.19	1.70	1.36

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Compute the electric circuit parameters for simple problems
CO2	Explain the working principle and applications of electrical machines
CO3	Analyze the characteristics of analog electronic devices
CO4	Explain the basic concepts of digital electronics
CO5	Explain the operating principles of measuring instruments

ARTIFICIAL INTELLIGENCE AND DATA SCIENCE															
BE3251	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	1										1	2	1
CO2	1	2	2	2	2		1				1	1	2	2	2
CO3	1	3	2	3	2	2						2	1	2	1
CO4	1	2	3	2	1							2	2	2	2
CO5	3	2	2	2	2							1	1	2	2
AVG	1.6	2.4	2	2.25	1.75	2	1				1	1.5	1.4	2	1.6
DA	1.20	1.80	1.50	1.68	1.31	1.50	0.75	0.00	0.00	0.00	0.75	1.12	1.05	1.50	1.20
IDA	1.36	2.04	1.70	1.91	1.48	1.70	0.85	0.00	0.00	0.00	0.85	1.27	1.19	1.70	1.36

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Compute the electric circuit parameters for simple problems
CO2	Explain the working principle and applications of electrical machines
CO3	Analyze the characteristics of analog electronic devices
CO4	Explain the basic concepts of digital electronics
CO5	Explain the operating principles of measuring instruments

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INFORMATION TECHNOLOGY															
BE3251	**BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING**														
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
CO1	**2**	**3**	**1**										**1**	**2**	**1**
CO2	**1**	**2**	**2**	**2**	**2**		**1**				**1**	**1**	**2**	**2**	**2**
CO3	**1**	**3**	**2**	**3**	**2**	**2**						**2**	**1**	**2**	**1**
CO4	**1**	**2**	**3**	**2**	**1**							**2**	**2**	**2**	**2**
CO5	**3**	**2**	**2**	**2**	**2**							**1**	**1**	**2**	**2**
AVG	1.6	2.4	2	2.25	1.75	2	1				1	1.5	1.4	2	1.6
DA	1.20	1.80	1.50	1.68	1.31	1.50	0.75	0.00	0.00	0.00	0.75	1.12	1.05	1.50	1.20
IDA	1.36	2.04	1.70	1.91	1.48	1.70	0.85	0.00	0.00	0.00	0.85	1.27	1.19	1.70	1.36

CORRELATION	
0	**NA**
1	**LOW**
2	**MEDIUM**
3	**HIGH**

CO1	Compute the electric circuit parameters for simple problems
CO2	Explain the working principle and applications of electrical machines
CO3	Analyze the characteristics of analog electronic devices
CO4	Explain the basic concepts of digital electronics
CO5	Explain the operating principles of measuring instruments

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

MA8353	TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	2		1					1	1	3	
CO2	2	1	1	2	1								3	3
CO3	3	2	2	1	1	1					1	1	3	
CO4	3	2	1	2	1	1					1	1	3	2
CO5	3	2	2	1	2	1					1	1	2	3
AVG	2.8	1.8	1.4	1.6	1.25	1					1	1	2.8	2.7
DA	2.09	1.35	1.05	1.20	0.94	0.75	0.00	0.00	0.00	0.00	0.75	0.75	2.09	1.99
IDA	2.37	1.53	1.19	1.36	1.06	0.85	0.00	0.00	0.00	0.00	0.85	0.85	2.37	2.26

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Understand how to solve the given standard partial differential equations
CO2	Solve differential equations using Fourier series analysis which plays a vital role in engineering
CO3	Appreciate the physical significance of Fourier series techniques in solving one and two applications dimensional heat flow problems and one dimensional wave equations.
CO4	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.
CO5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.

EE8391	ELECTROMAGNETIC THEORY													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	2	3	2						2	3	2
CO2	2	2	1	2	2	2						1	3	3
CO3	3	3	3	3	3	2						2	3	2
CO4	3	3	2	2	3	1						2	3	3
CO5	3	2	2	2	3	1						2	3	2
AVG	2.8	2.4	2	2.2	2.8	1.6						1.8	3	2.4
DA	2.09	1.80	1.50	1.65	2.09	1.20	0.00	0.00	0.00	0.00	0.00	1.35	2.24	1.80
IDA	2.37	2.04	1.70	1.87	2.37	1.36	0.00	0.00	0.00	0.00	0.00	1.53	2.54	2.04

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to understand the basic concepts about electrostatic fields, electrical potential, energy density and their applications.
CO2	Ability to acquire the knowledge in magneto static fields, magnetic flux density, vector potential and its applications.
CO3	Ability to understand the different methods of emf generation and Maxwell's equations
CO4	Ability to understand the basic concepts electromagnetic waves and characterizing parameters
CO5	Ability to understand and compute Electromagnetic fields and apply them for design and analysis of electrical equipment and systems

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8351	DIGITAL LOGIC CIRCUITS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	2	2						2	3	3
CO2	3	3	3	2	3	3						2	3	3
CO3	3	3	3	3	3	3	2					3	3	3
CO4	3	2	3	2	3	3						3	3	3
CO5	2	2	2	2	3	2	2					3	3	3
AVG	2.8	2.6	2.8	2.4	2.8	2.6	2					2.6	3	3
DA	2.09	1.94	2.09	1.80	2.09	1.94	1.50	0.00	0.00	0.00	0.00	1.94	2.24	2.24
IDA	2.37	2.20	2.37	2.04	2.37	2.20	1.70	0.00	0.00	0.00	0.00	2.20	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to study various number systems and simplify the logical expressions using Boolean functions
CO2	Ability to design combinational and sequential Circuits.
CO3	Ability to design various synchronous and asynchronous circuits.
CO4	Ability to introduce asynchronous sequential circuits and PLDs
CO5	Ability to introduce digital simulation for development of application oriented logic circuits.

EE8301	ELECTRICAL MACHINES – I													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3		2						2	3	3
CO2	3	3	3	3		2						2	3	3
CO3	3	3	3	3		2						2	3	3
CO4	3	3	3	3								2	3	3
CO5	3	3	3	3		2						2	3	3
AVG	3	3	3	3		2						2	3	3
DA	2.24	2.24	2.24	2.24	0.00	1.50	0.00	0.00	0.00	0.00	0.00	1.50	2.24	2.24
IDA	2.54	2.54	2.54	2.54	0.00	1.70	0.00	0.00	0.00	0.00	0.00	1.70	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to analyze the magnetic-circuits.
CO2	Ability to acquire the knowledge in constructional details of transformers.
CO3	Ability to understand the concepts of electromechanical energy conversion.
CO4	Ability to acquire the knowledge in working principles of DC Generator.
CO5	Ability to acquire the knowledge in working principles of DC Motor

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EC8353	ELECTRON DEVICES AND CIRCUITS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	2		2						2	3	3
CO2	3	3	3	2		2						2	3	3
CO3	3	3	3	3		2						2	3	3
CO4	3	2	3	2								2	3	3
CO5	2	2	2	2		2						2	3	3
AVG	2.8	2.4	2.8	2.2		2						2	3	3
DA	2.09	1.80	2.09	1.65	0.00	1.50	0.00	0.00	0.00	0.00	0.00	1.50	2.24	2.24
IDA	2.37	2.04	2.37	1.87	0.00	1.70	0.00	0.00	0.00	0.00	0.00	1.70	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Able to explain the structure and working operation of basic electronic devices.
CO2	Identify and differentiate both active and passive elements
CO3	Analyze the characteristics of different electronic devices such as diodes and transistors
CO4	Choose and adapt the required components to construct an amplifier circuit
CO5	Employ the acquired knowledge in design and analysis of oscillators

ME8792	POWER PLANT ENGINEERING													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	2		2	2					2	2	
CO2	3	2	2	2		2	2					2	2	
CO3	3	3	3	2		2	2					2	2	
CO4	3	3	3	2		2	2					2	2	
CO5	3	3	3	3	2	2	2					2	2	
AVG	3	2.6	2.6	2.2	2	2	2					2	2	
DA	2.24	1.94	1.94	1.65	1.50	1.50	1.50	0.00	0.00	0.00	0.00	1.50	1.50	0.00
IDA	2.54	2.20	2.20	1.87	1.70	1.70	1.70	0.00	0.00	0.00	0.00	1.70	1.70	0.00

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Analyze the layout, construction and working of the components inside a thermal power plant.
CO2	Acquire the layout, construction and working of the components inside a Diesel, Gas and Combined cycle power plants.
CO3	Able to explain the layout, construction and working of the components inside nuclear power plants.
CO4	Identify the layout, construction and working of the components inside Renewable energy power plants.
CO5	Infer the applications of power plants while extend their knowledge to power plant economics and environmental hazards and estimate the costs of electrical energy production.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

MA8491	NUMERICAL METHODS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	1							2	3	
CO2	2	2	1	1	1							2	3	3
CO3	3	2	2	1	2							1	3	
CO4	3	2	2	2	1							1	3	2
CO5	3	2	1	1	1							1	2	3
AVG	2.6	2	1.6	1.2	1.2							1.4	2.8	2.7
DA	1.94	1.50	1.20	0.90	0.90	0.00	0.00	0.00	0.00	0.00	0.00	1.05	2.09	1.99
IDA	2.20	1.70	1.36	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	1.19	2.37	2.26

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Understand the basic concepts and techniques of solving algebraic and transcendental equations
CO2	Appreciate the numerical techniques of interpolation and error approximations in various intervals in real life situations
CO3	Apply the numerical techniques of differentiation and integration for engineering problems.
CO4	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations
CO5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.

EE8401	ELECTRICAL MACHINES – II													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3		2						2	3	3
CO2	3	3	3	3		2						2	3	3
CO3	3	3	3	3		2						2	3	3
CO4	3	3	3	3								2	3	3
CO5	3	3	3	3		2						2	3	3
AVG	3	3	3	3		2						2	3	3
DA	2.24	2.24	2.24	2.24	0.00	1.50	0.00	0.00	0.00	0.00	0.00	1.50	2.24	2.24
IDA	2.54	2.54	2.54	2.54	0.00	1.70	0.00	0.00	0.00	0.00	0.00	1.70	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to understand the construction and working principle of Synchronous Generator
CO2	Ability to acquire knowledge on Synchronous motor.
CO3	Ability to understand the construction and working principle of Three phase Induction Motor
CO4	Ability to understand the construction and working principle of Special Machines
CO5	Ability to predetermine the performance characteristics of Synchronous Machines.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8402	TRANSMISSION AND DISTRIBUTION													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	2	2	1					2	3	3
CO2	3	2	3	3	3	2	2					2	3	3
CO3	2	2	2	2	2	2	2					2	3	3
CO4	3	3	3	3	3		3					2	3	3
CO5	3	3	3	3	3							2	3	3
AVG	2.6	2.4	2.6	2.6	2.6	2	2					2	3	3
DA	1.94	1.80	1.94	1.94	1.94	1.50	1.50	0.00	0.00	0.00	0.00	1.50	2.24	2.24
IDA	2.20	2.04	2.20	2.20	2.20	1.70	1.70	0.00	0.00	0.00	0.00	1.70	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	To understand the importance and the functioning of transmission line parameters.
CO2	To become familiar with the function of different components used in Transmission and Distribution levels of power system and modelling of these components.
CO3	To acquire knowledge on the performance of Transmission lines.
CO4	To acquire knowledge on Underground Cables
CO5	To understand the importance of distribution of the electric power in power system.

EE8403	MEASUREMENTS AND INSTRUMENTATION													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	2	3	2					1	2	2
CO2	3	2	2	2	2	2	2					1	3	3
CO3	3	2	3	1	2	2	2					1	3	3
CO4	3	3	3	3	3	3	3					2	3	3
CO5	3	3	3	3	3	2	2					2	2	2
AVG	2.8	2.4	2.6	2	2.4	2.4	2.2					1.4	2.6	2.6
DA	2.09	1.80	1.94	1.50	1.80	1.80	1.65	0.00	0.00	0.00	0.00	1.05	1.94	1.94
IDA	2.37	2.04	2.20	1.70	2.04	2.04	1.87	0.00	0.00	0.00	0.00	1.19	2.20	2.20

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	To acquire knowledge on Basic functional elements of instrumentation
CO2	To understand the concepts of Fundamentals of electrical and electronic instruments
CO3	Ability to compare between various measurement techniques
CO4	To acquire knowledge on Various storage and display devices
CO5	To understand the concepts Various transducers and the data acquisition systems

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8451	LINEAR INTEGRATED CIRCUITS AND APPLICATIONS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	2	1						2	3	2
CO2	2	2	2	2	2	1						1	3	2
CO3	3	3	3	3	3	1						2	3	2
CO4	3	2	3	2	3	1						2	3	2
CO5	3	2	3	2	3	1						2	3	2
AVG	2.6	2.2	2.6	2.2	2.6	1						1.8	3	2
DA	1.94	1.65	1.94	1.65	1.94	0.75	0.00	0.00	0.00	0.00	0.00	1.35	2.24	1.50
IDA	2.20	1.87	2.20	1.87	2.20	0.85	0.00	0.00	0.00	0.00	0.00	1.53	2.54	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to acquire knowledge in IC fabrication procedure
CO2	Ability to analyze the characteristics of Op-Amp
CO3	To understand and acquire knowledge on the Applications of Op-amp
CO4	Functional blocks and the applications of special ICs like Timers, PLL circuits, regulator circuits
CO5	Ability to understand and analyse, linear integrated circuits their Fabrication and application

IC8451	CONTROL SYSTEMS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2		2	2					2	3	2
CO2	2	2	2	2		2						2	3	2
CO3	3	3	3	3	2	2						2	3	2
CO4	3	3	3	3		2	2					2	3	2
CO5	3	3	3	3		2	2					2	3	2
AVG	2.6	2.6	2.6	2.6	2	2	2					2	3	2
DA	1.94	1.94	1.94	1.94	1.50	1.50	1.50	0.00	0.00	0.00	0.00	1.50	2.24	1.50
IDA	2.20	2.20	2.20	2.20	1.70	1.70	1.70	0.00	0.00	0.00	0.00	1.70	2.54	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	knowledge of Mathematics, Science and Engineering fundamentals.
CO2	Ability to do time domain and frequency domain analysis of various models of linear systems
CO3	Ability to interpret characteristics of the system to develop mathematical model.
CO4	Ability to design appropriate compensator for the given specifications.
CO5	Ability to come out with solution for complex control problem.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8501	POWER SYSTEM ANALYSIS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	2	2	2					2	3	3
CO2	2	3	2	3	2	2	2					2	3	3
CO3	3	3	3	3	3	1	3					2	3	3
CO4	3	3	3	3	3	2	3					2	3	3
CO5	3	3	3	3	3	2	3					2	3	3
AVG	2.6	2.8	2.6	2.8	2.6	1.8	2.6					2	3	3
DA	1.94	2.09	1.94	2.09	1.94	1.35	1.94	0.00	0.00	0.00	0.00	1.50	2.24	2.24
IDA	2.20	2.37	2.20	2.37	2.20	1.53	2.20	0.00	0.00	0.00	0.00	1.70	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to model the power system under steady state operating condition
CO2	Ability to understand and apply iterative techniques for power flow analysis
CO3	Ability to model and carry out short circuit studies on power system
CO4	Ability to acquire knowledge on Fault analysis.
CO5	Ability to model and understand various power system components and carry out power flow, short circuit and stability studies.

EE8551	MICROPROCESSORS AND MICROCONTROLLERS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	3	2						3	3	1
CO2	3	3	3	3	3	2						3	3	1
CO3	3	3	3	3	3	2						3	3	1
CO4	3	3	3	3	3	2						3	3	1
CO5	3	3	3	3	3	2						3	3	1
AVG	3	3	3	3	3	2						3	3	1
DA	2.24	2.24	2.24	2.24	2.24	1.50	0.00	0.00	0.00	0.00	0.00	2.24	2.24	0.75
IDA	2.54	2.54	2.54	2.54	2.54	1.70	0.00	0.00	0.00	0.00	0.00	2.54	2.54	0.85

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to explain the architecture of Microprocessor and Microcontroller.
CO2	Ability to acquire knowledge in Addressing modes & instruction set of 8085 & 8051.
CO3	Ability to need & use of Interrupt structure 8085 & 8051.
CO4	Ability to understand the importance of Interfacing
CO5	Ability to write the assembly language programme,Microprocessor and Microcontroller Applications

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EE8552	POWER ELECTRONICS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3		2						2	2	2
CO2	3	3	3	3		2						2	2	2
CO3	3	3	3	3		2						2	2	2
CO4	3	3	3	3								2	2	2
CO5	3	3	3	3		2						2	2	2
AVG	3	3	3	3		2						2	2	2
DA	2.24	2.24	2.24	2.24	0.00	1.50	0.00	0.00	0.00	0.00	0.00	1.50	1.50	1.50
IDA	2.54	2.54	2.54	2.54	0.00	1.70	0.00	0.00	0.00	0.00	0.00	1.70	1.70	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to know about the basic power semiconductor devices.
CO2	To Acquire Knowledge about the Phase Controlled Converters.
CO3	Ability to analyse the DC-DC Converters.
CO4	Ability to analyse the DC-AC Converters.
CO5	Ability to analyse the AC-AC Converters.

EE8591	DIGITAL SIGNAL PROCESSING													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	2	3	3	2					1	3	3
CO2	3	3	3	3	3		2					2	3	3
CO3	3	3	3	3	3							2	3	3
CO4	3	2	3	2	3							1	3	3
CO5	3	3	3	3	3	3						2	3	3
AVG	3	2.6	3	2.6	3	3	2					1.6	3	3
DA	2.24	1.94	2.24	1.94	2.24	2.24	1.50	0.00	0.00	0.00	0.00	1.20	2.24	2.24
IDA	2.54	2.20	2.54	2.20	2.54	2.54	1.70	0.00	0.00	0.00	0.00	1.36	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to acquire knowledge on Signals and systems & their mathematical representation
CO2	Ability to understand and analyze the discrete time systems.
CO3	Ability to understand the importance of Fourier transform, digital filters and DS Processors.
CO4	Ability to understand the types of filters and their design for digital implementation.
CO5	Ability to acquire knowledge on programmability digital signal processor & quantization effects.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CS8392	OBJECT ORIENTED PROGRAMMING													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	2							1		2
CO2	3	1	3	2	3							2		2
CO3	2	2	2	2	2							2		2
CO4	3	2	3	2	3							2		2
CO5	2	2	2	1	2							2		3
AVG	2.4	1.8	2.4	1.6	2.4							1.8		2.2
DA	1.80	1.35	1.80	1.20	1.80	0.00	0.00	0.00	0.00	0.00	0.00	1.35	0.00	1.65
IDA	2.04	1.53	2.04	1.36	2.04	0.00	0.00	0.00	0.00	0.00	0.00	1.53	0.00	1.87

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Develop Java programs using OOPS principles
CO2	Create Java programs with the concepts inheritance and interfaces
CO3	Build Java applications using exceptions and I/O streams
CO4	Increase Java applications with threads and generics classes
CO5	Create interactive Java programs using swings

OMD551	BASICS OF BIOMEDICAL INSTRUMENTATION													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	1		2	2	3					2	2	2
CO2	3	2	2		2	2	2					2	2	2
CO3	3	2	2		2	2	3					2	3	2
CO4	3	1	2		2	2	3					2	2	2
CO5	3	2	2		2	2	3					2	2	2
AVG	3	1.6	1.8		2	2	2.8					2	2.2	2
DA	2.24	1.20	1.35	0.00	1.50	1.50	2.09	0.00	0.00	0.00	0.00	1.50	1.65	1.50
IDA	2.54	1.36	1.53	0.00	1.70	1.70	2.37	0.00	0.00	0.00	0.00	1.70	1.87	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	To Learn the different bio potential and its propagation
CO2	To get Familiarize the different electrode placement for various physiological recording
CO3	Students will be able design bio amplifier for various physiological recording
CO4	Students will understand various technique non electrical physiological measurements
CO5	Understand the different biochemical measurements

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8601	SOLID STATE DRIVES													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3		2						2	3	3
CO2	3	3	3	3		2						2	3	3
CO3	3	3	3	3		2						2	3	3
CO4	3	3	3	3								2	3	3
CO5	3	3	3	3		2						2	3	3
AVG	3	3	3	3		2						2	3	3
DA	2.24	2.24	2.24	2.24	0.00	1.50	0.00	0.00	0.00	0.00	0.00	1.50	2.24	2.24
IDA	2.54	2.54	2.54	2.54	0.00	1.70	0.00	0.00	0.00	0.00	0.00	1.70	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to select suitability drive for the given application.
CO2	Ability to analyze the operation of the converter/chopper fed dc drive.
CO3	Ability to analyze the operation and performance of AC motor drives.
CO4	Ability to analyze the operation and performance of synchronous motor drives.
CO5	Ability to analyze and design the current and speed controllers for a closed loop solid state DC motor drive.

EE8602	PROTECTION AND SWITCHGEAR													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	2	2	1					2	3	3
CO2	3	2	3	3	3	2	2					2	3	3
CO3	2	2	2	2	2	2	2					2	3	3
CO4	3	3	3	3	3		3					2	3	3
CO5	3	3	3	3	3							2	3	3
AVG	2.6	2.4	2.6	2.6	2.6	2	2					2	3	3
DA	1.94	1.80	1.94	1.94	1.94	1.50	1.50	0.00	0.00	0.00	0.00	1.50	2.24	2.24
IDA	2.20	2.04	2.20	2.20	2.20	1.70	1.70	0.00	0.00	0.00	0.00	1.70	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to analyze the characteristics and functions of relays and protection schemes.
CO2	Ability to understand and analyze Electromagnetic and Static Relays.
CO3	Ability to find the causes of abnormal operating conditions of the apparatus and system.
CO4	Ability to study about the apparatus protection, static and numerical relays.
CO5	Ability to acquire knowledge on functioning of circuit breaker.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8691	EMBEDDED SYSTEMS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	2	2					3	3	3	3
CO2	3	3	3	3	3	2					3	3	3	3
CO3	3	3	1	3	3	2					3	3	3	3
CO4	3	3	2	3	3	3					3	3	3	3
CO5	3	3	3	3	3	2					3	3	3	3
AVG	3	3	2.4	3	2.8	2.2					3	3	3	3
DA	2.24	2.24	1.80	2.24	2.09	1.65	0.00	0.00	0.00	0.00	2.24	2.24	2.24	2.24
IDA	2.54	2.54	2.04	2.54	2.37	1.87	0.00	0.00	0.00	0.00	2.54	2.54	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to understand and analyze Embedded systems.
CO2	Ability to operate various Embedded Development Strategies
CO3	Ability to study about the bus Communication in processors
CO4	Ability to understand basics of Real time operating system.
CO5	Ability to acquire knowledge on various processor scheduling algorithms.

EE8002	DESIGN OF ELECTRICAL APPARATUS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	2	3	3	2					1	3	3
CO2	3	3	3	3	3		2					2	3	3
CO3	3	3	3	3	3							2	3	3
CO4	3	2	3	2	3							1	3	3
CO5	3	3	3	3	3	3						2	3	3
AVG	3	2.6	3	2.6	3	3	2					1.6	3	3
DA	2.24	1.94	2.24	1.94	2.24	2.24	1.50	0.00	0.00	0.00	0.00	1.20	2.24	2.24
IDA	2.54	2.20	2.54	2.20	2.54	2.54	1.70	0.00	0.00	0.00	0.00	1.36	2.54	2.54

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to design of field system for its application
CO2	Ability to design sing and three phase transformer.
CO3	Ability to design armature and field of DC machines
CO4	Ability to design stator and rotor of induction motor.
CO5	Ability to design and analyze synchronous machines

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8005	SPECIAL ELECTRICAL MACHINES													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3		2						2	3	2
CO2	3	3	3	3		2						2	3	2
CO3	3	3	3	3		2						2	3	2
CO4	3	3	3	3								2	3	2
CO5	3	3	3	3		2						2	3	2
AVG	3	3	3	3		2						2	3	2
DA	2.24	2.24	2.24	2.24	0.00	1.50	0.00	0.00	0.00	0.00	0.00	1.50	2.24	1.50
IDA	2.54	2.54	2.54	2.54	0.00	1.70	0.00	0.00	0.00	0.00	0.00	1.70	2.54	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to acquire the knowledge on construction and operation of stepper motor
CO2	Ability to acquire the knowledge on construction and operation of stepper switched reluctance motors
CO3	Ability to acquire the knowledge on construction and operation of permanent magnet brushless D.C. motors.
CO4	Ability to acquire the knowledge on construction and operation of permanent magnet synchronous motors.
CO5	Ability to select a special Machine for a particular application.

EE8703	RENEWABLE ENERGY SYSTEMS													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3					3	3					2		2
CO2	2	2	3	3								2		2
CO3	2	2	3	3	3	3	3					2		2
CO4	2		3	3		3	3					2		2
CO5	2		3	3		3	3					2		2
AVG	2.2	2	3	3	3	3	3					2		2
DA	1.65	1.50	2.24	2.24	2.24	2.24	2.24	0.00	0.00	0.00	0.00	1.50	0.00	1.50
IDA	1.87	1.70	2.54	2.54	2.54	2.54	2.54	0.00	0.00	0.00	0.00	1.70	0.00	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Create awareness about renewable Energy Sources and technologies.
CO2	Get adequate inputs on a variety of issues in harnessing renewable Energy.
CO3	Recognize current and possible future role of renewable energy sources.
CO4	Explain the various renewable energy resources and technologies and their applications.
CO5	Understand basics about biomass energy and Solar Energy.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8701	HIGH VOLTAGE ENGINEERING													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	2	1	2	1	2					2	1	1
CO2	3	2	3	2	2		2					2	2	2
CO3	2	1	2	1	2	2	2					2	2	2
CO4	3	2	3	2	2	2	2					2	1	2
CO5	3	1	3	1	3	2	2					2	2	1
AVG	2.6	1.4	2.6	1.4	2.2	1.75	2					2	1.6	1.6
DA	1.94	1.05	1.94	1.05	1.65	1.31	1.50	0.00	0.00	0.00	0.00	1.50	1.20	1.20
IDA	2.20	1.19	2.20	1.19	1.87	1.48	1.70	0.00	0.00	0.00	0.00	1.70	1.36	1.36

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to measure over voltages
CO2	Ability to understand Generation of high voltage.
CO3	Ability to understand the measurement of high voltage.
CO4	Ability to understand High voltage testing.
CO5	Ability to test power apparatus and insulation coordination.

EE8702	POWER SYSTEM OPERATION AND CONTROL													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	2	2	2					2	2	2
CO2	2	3	2	3	2	2	2					2	3	2
CO3	3	3	3	3	3	1	3					2	3	2
CO4	3	3	3	3	3	2	3					2	3	3
CO5	3	3	3	3	3	2	3					2	3	3
AVG	2.6	2.8	2.6	2.8	2.6	1.8	2.6					2	2.8	2.4
DA	1.94	2.09	1.94	2.09	1.94	1.35	1.94	0.00	0.00	0.00	0.00	1.50	2.09	1.80
IDA	2.20	2.37	2.20	2.37	2.20	1.53	2.20	0.00	0.00	0.00	0.00	1.70	2.37	2.04

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Ability to understand the day-to-day operation of electric power system.
CO2	Ability to acquire knowledge on real power-frequency interaction.
CO3	Ability to understand the reactive power-voltage interaction.
CO4	Ability to analyze the control actions to be implemented on the system to meet the minute-to-minute variation of system demand.
CO5	Ability to design SCADA and its application for real time

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

OCS752	INTRODUCTION TO C PROGRAMMING													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	1	2							1		2
CO2	3	1	3	2	3							2		2
CO3	2	2	2	2	2							2		2
CO4	3	2	3	2	3							2		2
CO5	2	2	2	1	2							2		3
AVG	2.4	1.8	2.4	1.6	2.4							1.8		2.2
DA	1.80	1.35	1.80	1.20	1.80	0.00	0.00	0.00	0.00	0.00	0.00	1.35	0.00	1.65
IDA	2.04	1.53	2.04	1.36	2.04	0.00	0.00	0.00	0.00	0.00	0.00	1.53	0.00	1.87

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Develop simple applications using basic constructs
CO2	Develop applications using arrays
CO3	Develop applications using strings
CO4	Develop applications using functions
CO5	Develop applications using structures

GE8071	DISASTER MANAGEMENT													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1		2		2	3	3				2		2
CO2	2	1		2		2	3	2				2		2
CO3	3	3		3	3	3	3	2				2		2
CO4	2	1		2		1	3					2		2
CO5	3	3		3	3	3	3					2		2
AVG	2.4	1.8		2.4	3	2.2	3	2.33				2		2
DA	1.80	1.35	0.00	1.80	2.24	1.65	2.24	1.75	0.00	0.00	0.00	1.50	0.00	1.50
IDA	2.04	1.53	0.00	2.04	2.54	1.87	2.54	1.98	0.00	0.00	0.00	1.70	0.00	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Differentiate the types of disasters, causes and their impact on environment and society
CO2	Assess vulnerability and various methods of risk reduction measures as well as mitigation.
CO3	Draw the hazard and vulnerability profile of India,Scenarious in the Indian context, Disaster damage assessment and management
CO4	Able to gain knowledge risk management systems in India
CO5	Able to create awareness about the disaster management with the case studies and field works

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GE8077	TOTAL QUALITY MANAGEMENT													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1		2		2	3	3				2		2
CO2	2	1		2		2	3	2				2		2
CO3	3	3		3	3	3	3	2				2		2
CO4	2	1		2		1	3					2		2
CO5	3	3		3	3	3	3					2		2
AVG	2.4	1.8		2.4	3	2.2	3	2.33				2		2
DA	1.80	1.35	0.00	1.80	2.24	1.65	2.24	1.75	0.00	0.00	0.00	1.50	0.00	1.50
IDA	2.04	1.53	0.00	2.04	2.54	1.87	2.54	1.98	0.00	0.00	0.00	1.70	0.00	1.70

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Able to acquire knowledge about the basics of Total Quality Management.
CO2	Able to gain knowledge about the Total quality management principles.
CO3	Able to learn about the tools and Techniques of Total quality management.
CO4	Able to know about the perfomance measures of tools and techniques in Total quality management system;.
CO5	Able to gain knowledge about the quality management system.

EE8015	ELECTRIC ENERGY GENERATION UTILIZATION AND CONSERVATION													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	2	2	2					2	1	1
CO2	2	3	2	3	2	2	2					2	2	2
CO3	3	3	3	3	3	1	3					2	2	2
CO4	3	3	3	3	3	2	3					2	1	2
CO5	3	3	3	3	3	2	3					2	2	1
AVG	2.6	2.8	2.6	2.8	2.6	1.8	2.6					2	1.6	1.6
DA	1.94	2.09	1.94	2.09	1.94	1.35	1.94	0.00	0.00	0.00	0.00	1.50	1.20	1.20
IDA	2.20	2.37	2.20	2.37	2.20	1.53	2.20	0.00	0.00	0.00	0.00	1.70	1.36	1.36

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	To understand the main aspects of generation, utilization and conservation.
CO2	To identify an appropriate method of heating for any particular industrial application.
CO3	To evaluate domestic wiring connection and debug any faults occurred.
CO4	To construct an electric connection for any domestic appliance like refrigerator as well as to design a battery charging circuit for a specific household application
CO5	Design a battery charging circuit for a specific household application perfomance of traction unit

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE8019	SMART GRID													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	3	2									1	1
CO2	1	3	3	3	1	1	1					1	2	2
CO3	2	3	3	3	1		1					2	2	2
CO4	2	3	2	3	1							2	1	2
CO5	1	2	2	2	2							1	2	1
AVG	1.6	2.4	2.6	2.6	1.25	1	1					1.5	1.6	1.6
DA	1.20	1.80	1.94	1.94	0.94	0.75	0.75	0.00	0.00	0.00	0.00	1.12	1.20	1.20
IDA	1.36	2.04	2.20	2.20	1.06	0.85	0.85	0.00	0.00	0.00	0.00	1.27	1.36	1.36

CORRELATION	
0	NA
1	LOW
2	MEDIUM
3	HIGH

CO1	Learners will develop more understanding on the concepts of Smart Grid and its present developments
CO2	Learners will study about different Smart Grid technologies
CO3	Learners will acquire knowledge about different smart meters and advanced metering infrastructure
CO4	Learners will have knowledge on power quality management in Smart Grids
CO5	Learners will develop more understanding on LAN, WAN and Cloud Computing for Smart Grid applications