



## REGULATION 2017

R2017	C101	HS8151 COMMUNICATIVE ENGLISH	L	T	P	C
			4	0	0	4
C101.1	Read articles of a general kind in magazines and newspaper					
C101.2	Comprehend conversations and short talks delivered in English					
C101.3	Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English					
C101.4	Write short essays of a general kind and personal letters and emails in English					
C101.5	Recognize the use of grammar in speech and writing					
C101.6	Trace the meaning of words and phrases used in a text					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C101.1	-	-	-	-	-	1	1	-	2	3	-	1	-	-	1.60
C101.2	-	-	-	-	-	-	-	-	2	3	-	1	-	-	2.00
C101.3	-	-	-	-	-	-	-	-	2	3	-	1	-	-	2.00
C101.4	-	-	-	-	-	-	-	-	2	3	-	1	-	-	2.00
C101.5	-	-	-	-	-	1	-	-	2	3	-	1	-	-	1.75
C101.6	-	-	-	-	-	-	1	-	2	3	-	1	-	-	1.75
AVG	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	2.00	3.00	0.00	1.00	0.00	0.00	



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R2017	C102	MA8151 ENGINEERING MATHEMATICS - I	L	T	P	C
			4	0	0	4
C102.1	Use both the limit definition and rules of differentiation to differentiate functions.					
C102.2	Apply differentiation to solve maxima and minima problems.					
C102.3	Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus.					
C102.4	Apply various techniques in solving differential equations.					
C102.5	To study how differential equation, help to solve real time problems.					
C102.6	Introduce the concepts of Differentiation and Integration that will create an ability to deal with Differential Equations and Multiple integrals					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C102.1	2	3	1	2	1	-	-	-	-	-	-	-	1	-	1.80
C102.2	2	2	2	2	1	-	1	2	-	-	1	-	1	-	1.63
C102.3	2	1	1	2	2	-	1	2	-	-	-	-	1	-	1.57
C102.4	3	3	3	2	2	2	-	2	-	-	-	-	-	-	2.43
C102.5	2	2	2	1	-	1	-	1	-	-	-	-	-	-	1.50
C102.6	3	2	2	2	1	1	1	-	-	-	-	-	-	1	1.71
AVG	2.33	2.17	1.83	1.83	1.40	1.33	1.00	1.75	0.00	0.00	1.00	0.00	1.00	1.00	



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R2017	C103	PH8151 ENGINEERING PHYSICS	L	T	P	C
			3	0	0	3
C103.1	To understand elastic properties of materials, principle of lasers and crystal systems					
C103.2	To analyze bending of beams, types of laser and crystal structures.					
C103.3	To explain quantum mechanics to understand wave particle dualism and light propagation in optical fibers					
C103.4	To apply quantum theory to set up one-dimensional Schrodinger's wave equation and its applications to a matter wave system and to discuss heat expansion in solids and liquids and its applications.					
C103.5	To discuss heat transfer in different media and wave motion					
C103.6	To analyse different modes of heat transfer, crystal imperfections and crystal growing techniques					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C103.1	3	3	3	2	-	-	-	-	-	-	-	1	-	-	2.40
C103.2	3	3	3	2	-	2	-	-	-	-	-	1	1	-	2.33
C103.3	3	3	3	2	-	1	-	-	-	-	-	1	1	-	2.17
C103.4	3	3	3	2	-	1	-	-	-	-	-	1	-	-	2.17
C103.5	3	3	3	3	-	1	2	-	-	-	-	1	-	-	2.29
C103.6	3	3	3	3	-	-	-	-	-	-	-	-	-	-	3.00
AVG	3.00	3.00	3.00	2.33	0.00	1.25	2.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	



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R2017	C104	CY8151 ENGINEERING CHEMISTRY	L	T	P	C
			3	0	0	3
C104.1	Identify the origin of water resources and develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.					
C104.2	Recognize the basic design of adsorption systems and catalysis its industrial applications					
C104.3	Illustrate the synthesis and applications of Alloys.					
C104.4	Disseminating the knowledge about the chemistry of fuels and combustion and its application in various levels.					
C104.5	Acquire the basics of non-conventional sources of energy and understand the principles and the reaction mechanism of batteries and fuel cells					
C104.6	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					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C104.1	3	3	3	3	3	-	3	-	-	3	3	3	-	-	3.00
C104.2	2	2	1	2	-	-	1	-	-	-	1	1	-	-	1.43
C104.3	3	2	3	3	-	-	-	1	-	3	2	3	-	-	2.50
C104.4	3	2	3	3	-	2	3	-	3	3	-	3	-	-	2.78
C104.5	3	3	3	3	-	-	3	2	3	1	-	-	-	-	2.63
C104.6	3	3	2	3	3	-	3	1	3	2	3	3	-	-	2.64
AVG	2.83	2.50	2.50	2.83	3.00	2.00	2.60	1.33	3.00	2.40	2.25	2.60	0.00	0.00	



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R2017	C105	GE8151 PROBLEM SOLVING AND PYTHON PROGRAMMING	L	T	P	C
			3	0	0	3
C105.1	Develop algorithmic solutions to simple computational problems					
C105.2	Demonstrate programs using simple Python statements and expressions					
C105.3	Explain control flow and functions concept in Python for solving problems					
C105.4	Use Python data structures – lists, tuples & dictionaries for representing compound data.					
C105.5	Explain files, exception, modules and packages in Python for solving problems.					
C105.6	Develop python programs to illustrate concise and efficient algorithms.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C105.1	3					1							1	1	2.00
C105.2	2	2	3		3	1	1	1	1	1		1	2	2	1.60
C105.3	2	2	3		3	1	1	1	1	1		1	1	1	1.60
C105.4	2	2	3		3	1	1	1	1	1	1	1	1	1	1.55
C105.5	2	2	3	3	3	1	1	1	1	1		1	1	1	1.73
C105.6	2	2	3	3	3	1	1	1	1	1		1	1	1	1.73
AVG	2.17	2.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.17	1.17	



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R2017	C106	GE8152 ENGINEERING GRAPHICS	L	T	P	C
			2	0	4	4
C106.1	Relate thoughts and ideas graphically in a neat fashion and ability to perform sketching of engineering curves used in engineering practices, multiple views of objects.					
C106.2	Understand the concepts of orthographic projection of basic geometrical constructions					
C106.3	Acquire the knowledge of Orthographic projection in three dimensional object					
C106.4	Apply the concept of Sectioning in the interior shapes of machine elements and structures.					
C106.5	Analyse the concepts of design in developing various 3-dimensional projections					
C106.6	Build a strong foundation to analyse the design in various dimensions using Modelling software's					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C106.1	3	3	-	-	-	-	-	-	-	2	-	-	3	2	2.67
C106.2	3	3	-	-	-	-	-	-	-	2	-	-	3	2	2.67
C106.3	3	3	-	-	-	-	-	-	-	2	-	-	3	2	2.67
C106.4	3	3	-	-	-	-	-	-	-	2	-	-	3	2	2.67
C106.5	3	3	-	-	-	-	-	-	-	2	-	-	3	2	2.67
C106.6	3	3	-	-	-	-	-	-	-	2	-	-	3	2	2.67
AVG	3.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	3.00	2.00	



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R2017	C107	GE8161 PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY	L	T	P	C
			0	0	4	2
C107.1	Describe the Python language syntax including control statements, loops and functions to write programs for a wide variety of problems in mathematics, science.					
C107.2	Examine the core data structures like lists, dictionaries, tuples and sets in Python to store, process and sort the data.					
C107.3	Create files and perform read and write operations in it.					
C107.4	Handle exceptions for any application using Exception handling mechanism					
C107.5	Create files and perform read and write operations in it.					
C107.6	Use of some of python libraries such as Matplotlib and pandas					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C107.1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3.00
C107.2	2	2	3	-	3	-	-	-	-	-	-	1	-	1	2.20
C107.3	2	2	3	-	3	-	-	-	-	-	-	1	-	1	2.20
C107.4	2	2	3	-	3	-	-	-	-	-	1	1	1	1	2.00
C107.5	2	2	3	3	3	-	-	-	-	-	-	1	-	1	2.33
C107.6	2	2	3	3	3	-	-	-	-	-	-	1	-	1	2.33
AVG	2.17	2.00	3.00	3.00	3.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	



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R2017	C108	BS8161 PHYSICS AND CHEMISTRY LABORATORY	L	T	P	C
			0	0	4	2
C108.1	To apply the physics principles of Thermal physics and Properties of Matter to evaluate properties of materials.					
C108.2	To understand measurement technique and usage of new instrument in Optics for real time application in engineering.					
C108.3	Apply the knowledge of semiconducting material, to evaluate the band gap of material useful for engineering solution.					
C108.4	To analyze the quality of water for domestic and industrial purpose.					
C108.5	To understand the EMF for different metallic solutions from which electrode potential is determined.					
C108.6	To acquire knowledge about the conductivity of acids and bases.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C108.1	3	2	3	3	2	-	3	3	2	1	1	3	-	-	2.36
C108.2	3	2	3	3	3	3	3	3	2	2	2	3	2	-	2.67
C108.3	3	2	3	3	3	3	3	3	2	1	1	3	-	-	2.50
C108.4	3	3	3	3	3	1	3	1	3	3	3	3	-	-	2.67
C108.5	3	3	3	3	3	2	3	1	3	3	3	3	-	-	2.75
C108.6	3	3	3	3	3	3	3	1	3	3	3	3	-	-	2.83
AVG	3.00	2.50	3.00	3.00	2.83	2.40	3.00	2.00	2.50	2.17	2.17	3.00	2.00	0.00	



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R2017	C109	HS8251 TECHNICAL ENGLISH	L	T	P	C
			4	0	0	4
C109.1	Read technical texts and write area- specific texts effortlessly.					
C109.2	Listen and comprehend lectures and talks in their area of specialization successfully.					
C109.3	Speak appropriately and effectively in varied formal and informal contexts.					
C109.4	Write reports and winning job applications.					
C109.5	Recognize the aspects that influence the usage of grammar in speech and in writing					
C109.6	Determine the meaning of words and phrases used in a text.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C109.1	-	-	-	-	-	-	-	-	-	3	-	2	-	-	2.50
C109.2	-	2	-	-	-	-	-	-	-	3	-	-	-	-	2.50
C109.3	-	-	-	-	-	-	2	-	-	3	-	-	-	-	2.50
C109.4	-	-	1	-	-	2	-	3	-	-	-	-	-	-	2.00
C109.5	-	-	-	-	-	-	-	-	-	3	-	2	-	-	2.50
C109.6	-	-	-	-	-	-	-	-	-	3	-	2	-	-	2.50
AVG	0.00	2.00	1.00	0.00	0.00	2.00	2.00	3.00	0.00	3.00	0.00	2.00	0.00	0.00	



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R2017	C110	MA8251 ENGINEERING MATHEMATICS - II	L	T	P	C
			4	0	0	4
C110.1	Introduce the concepts of Eigen value and Eigenvectors which help to find the stability of the systems in engineering					
C110.2	Define and understand the concepts of vector calculus, needed for finding solutions in all engineering discipline problems					
C110.3	Develop an understanding of the standard techniques of complex variable theory so as to enable the student to apply them with confidence, in application areas such as heat conduction, elasticity, fluid dynamics and flow of the electric current.					
C110.4	Evaluate real integrals by applying concept of complex integration					
C110.5	Understand and apply the knowledge of Laplace Transforms in solving system of linear differential equations.					
C110.6	Introduces fundamental knowledge in mathematics, which is applicable in the Engineering aspects.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C110.1	2	2	2	2	1	-	-	1	-	-	-	-	1	-	1.67
C110.2	2	2	2	2	-	-	-	-	-	-	-	-	1	-	2.00
C110.3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	1.25
C110.4	2	2	2	1	1	-	-	1	-	-	-	-	-	-	1.50
C110.5	3	3	3	2	1	-	-	-	-	-	-	-	1	-	2.40
C110.6	3	2	2	2	1	-	-	-	-	-	-	-	-	-	2.00
AVG	2.33	2.00	2.00	1.67	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	



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R2017	C111	PH8253 PHYSICS FOR ELECTRONICS ENGINEERING	L	T	P	C
			3	0	0	3
C111.1	To gain the knowledge on different stages of free electron theory and apply it to determine the behavior of conducting materials.					
C111.2	Apply free electron theory to determine the properties of semiconductors, insulators, magnetic and optical materials.					
C111.3	To describe the fundamental principle and working operation of various semiconductor device and its application					
C111.4	To understand the essential principle and working operation of optoelectronic devices, spintronics and their applications					
C111.5	To distinguish the materials based on electrical conductivity, types of semiconductors, magnetic material and optical materials.					
C111.6	To Summarize the basics of quantum structures and their applications in nanoelectronic devices, and carbon electronics.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C111.1	3	3	-	-	-	-	-	-	-	-	-	-	-	-	3.00
C111.2	3	3	-	2	-	-	-	-	-	-	-	-	-	-	2.67
C111.3	3	3	-	3	-	-	-	-	-	-	-	-	2	-	3.00
C111.4	3	3	2	-	2	2	1	-	-	-	-	2	2	-	2.14
C111.5	3	3	2	-	1	-	1	-	-	-	-	1	-	-	1.83
C111.6	3	3	2	-	3	2	1	-	-	-	-	3	2	1	2.43
AVG	3.00	3.00	2.00	2.50	2.00	2.00	1.00	0.00	0.00	0.00	0.00	2.00	2.00	1.00	



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R2017	C112	BE8254 BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING	L	T	P	C
			3	0	0	3
C112.1	Understand the concept of three phase power circuits and measurement..					
C112.2	Comprehend the concepts in transformers					
C112.3	Comprehend the concepts in DC Machines					
C112.4	Comprehend the concepts in AC Machines					
C112.5	Choose appropriate measuring instruments for given application					
C112.6	Comprehend the concepts in special Machines					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C112.1	2	2	3	2	2	-	-	-	-	2	2	2	3	2	2.13
C112.2	2	3	2	2	2	-	-	-	-	2	2	2	3	2	2.13
C112.3	2	2	3	2	2	-	-	-	-	2	2	2	3	2	2.13
C112.4	2	3	2	2	2	-	-	-	-	2	2	2	3	2	2.13
C112.5	2	2	3	2	2	-	-	-	-	2	2	2	3	2	2.13
C112.6	2	3	2	2	2	-	-	-	-	2	2	2	3	2	2.13
AVG	2	2.50	2.50	2	2	-	-	-	-	2	2	2	3	2	



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R2017	C113	EC8251 CIRCUIT ANALYSIS	L	T	P	C
			4	0	0	4
C113.1	Explain the basic circuit elements, fundamental laws applied for circuits.					
C113.2	Solve complex circuits using Mesh & Nodal Methods					
C113.3	Deduce the complicated circuits into simple circuits using Theorems.					
C113.4	Understand the concept of resonant theory and coupled circuits.					
C113.5	Solve the RLC Transient circuits with DC and AC inputs					
C113.6	Compute the different types of two port parameters.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C113.1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	1.50
C113.2	3	2	2	-	-	-	-	-	-	-	-	-	1	1	2.33
C113.3	3	2	2	-	-	-	-	-	-	-	-	-	1	1	2.33
C113.4	2	1	-	-	-	-	-	-	-	-	-	-	1	1	1.50
C113.5	3	2	2	-	-	-	-	-	-	-	-	-	1	1	2.33
C113.6	3	2	2	-	-	-	-	-	-	-	-	-	1	1	2.33
AVG	2.67	1.67	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	



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R2017	C114	EC8252 ELECTRONIC DEVICES	L	T	P	C
			3	0	0	3
C114.1	Understand and analyze the Diffusion and drift current, Current equation of PN junction Diode					
C114.2	Analyze Hybrid – $\pi$ –h parameter of BJT.					
C114.3	Evaluate the JFETs and MOSFETs Drain and Transfer characteristics.					
C114.4	Design various special semiconductor diodes.					
C114.5	Design the Power MOSFET- DMOS-VMOS					
C114.6	Understanding about LED, LCD, Photo transistor					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C114.1	3	3	3	1	1	2	2	2	1	2	2	2	2	2	2.00
C114.2	3	3	3	1	2	2	2	2	1	2	2	2	2	2	2.08
C114.3	3	3	3	1	2	2	2	2	2	2	2	2	2	2	2.17
C114.4	3	3	3	1	2	2	2	2	2	2	2	2	2	2	2.17
C114.5	3	3	3	1	2	2	2	2	2	2	2	2	2	2	2.17
C114.6	3	3	3	1	2	2	2	2	1	2	3	2	2	2	2.17
<b>AVG</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>1.00</b>	<b>1.83</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>1.50</b>	<b>2.00</b>	<b>2.17</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	



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R2017	C115	EC8261 CIRCUITS AND DEVICES LABORATORY	L	T	P	C
			0	0	4	2
C115.1	Understand the diode and transistor characteristics.					
C115.2	Verify the rectifier circuits using diodes and implement them using hardware.					
C115.3	Analyze the construction, operation and characteristics of JFET which can be used in the design of amplifiers.					
C115.4	Analyze various circuit theorems					
C115.5	Analyze the concepts of SCR and observe its characteristics.					
C115.6	Design and analyze RC, RL, series & parallel resonance circuits.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C115.1	3	3	3	3	-	2	2	3	3	3	2	2	2	2	2.64
C115.2	3	3	3	3	-	2	2	3	3	3	2	2	2	2	2.64
C115.3	3	3	3	3	-	2	2	3	3	3	2	2	2	2	2.64
C115.4	3	3	3	3	-	2	2	3	3	3	2	2	2	2	2.64
C115.5	3	3	3	3	-	2	2	3	3	3	2	2	2	2	2.64
C115.6	3	3	3	3	-	2	2	3	3	3	2	2	2	2	2.64
AVG	3.00	3.00	3.00	3.00	0.00	2.00	2.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00	



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R2017	C116	GE8261 ENGINEERING PRACTICES LABORATORY	L	T	P	C
			0	0	4	2
C116.1	Interpret electrical parameters such as voltage, current, resistance and power					
C116.2	Measure the electrical energy by single phase and three phase energy meters.					
C116.3	Prepare the carpentry and plumbing joints.					
C116.4	Perform different types of welding joints and sheet metal works					
C116.5	Perform different machining operations in lathe and drilling.					
C116.6	To get hands on working experience with mechanical systems and electrical instruments.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C116.1	2	2	1	1	2	1	-	-	1	1	1	1	2	2	1.30
C116.2	2	2	1	1	1	1	-	-	1	1	1	1	2	2	1.20
C116.3	1	1	1	-	-	2	-	-	1	1	1	2	1	2	1.25
C116.4	2	1	1	-	-	1	1	1	1	1	1	2	2	2	1.20
C116.5	2	1	1	-	-	1	-	1	1	1	1	2	2	2	1.22
C116.6	2	1	1	-	-	1	1	1	1	1	1	2	2	2	1.20
AVG	1.83	1.33	1.00	1.00	1.50	1.17	1.00	1.00	1.00	1.00	1.00	1.67	1.83	2.00	



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R2017	C201	MA8352 LINEAR ALGEBRA AND PARTIAL DIFFERENTIAL EQUATIONS	L	T	P	C
			4	0	0	4
C201.1	Determine the basis and dimension of a finite dimensional vector space.					
C201.2	Compute the Matrix, Range space and Null space of a linear transformation					
C201.3	Construct orthonormal bases for inner product spaces using Gram Schmidt process					
C201.4	Formulate and Solve Linear and non-linear Partial differential equations.					
C201.5	Find the Fourier transform, Inverse Fourier Transform and Z transform of simple functions.					
C201.6	Solve difference equations using Inverse Z Transforms and compute Fourier sine and cosine transforms of simple functions.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C201.1	3	3	2	2	1	-	-	-	-	-	-	1	3	2	2.2
C201.2	3	3	2	2	1	-	-	-	-	-	-	1	3	2	1.8
C201.3	3	3	2	2	1	-	-	-	-	-	-	1	3	2	1.8
C201.4	3	3	2	2	1	-	-	-	-	-	-	1	3	2	1.8
C201.5	3	3	2	2	1	-	-	-	-	-	-	1	3	2	2.0
C201.6	3	3	2	2	1	-	-	-	-	-	-	1	3	2	2.0
AVG	3.00	3.00	2.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00	2.00	



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R2017	C202	EC8393 FUNDAMENTALS OF DATA STRUCTURES IN C	L	T	P	C
			3	0	0	3
C202.1	Understand the concept of arrays in C Programming.					
C202.2	Illustrate the fundamentals of Functions and Pointers.					
C202.3	Classify the various Storage Classes and Preprocessor directives along with the applications of Structures and Unions.					
C202.4	Analyze the applications of linear data structure using Stack and Queue implementation.					
C202.5	Define the various terms of the Non Linear Data Structure – Trees and Graph					
C202.6	Illustrate the various sorting algorithms and hash functions with examples					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C202.1	3	-	-	-	-	-	-	-	-	-	-	1	2	3	2.00
C202.2	3	2	-	-	-	1	-	-	1	-	-	1	2	3	1.60
C202.3	1	3	-	2	-	-	-	-	1	-	-	-	1	2	1.75
C202.4	3	3	-	2	-	1	-	-	2	2	2	2	3	3	2.13
C202.5	2	3	-	1	-	1	-	-	1	1	1	1	2	2	1.38
C202.6	-	-	-	1	-	-	-	-	2	1	1	1	2	2	1.20
AVG	2.40	2.75	0.00	1.50	0.00	1.00	0.00	0.00	1.40	1.33	1.33	1.20	2.00	2.50	



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R2017	C203	EC8351 ELECTRONIC CIRCUITS- I	L	T	P	C
			3	0	0	3
C203.1	Understand the various biasing methods of a single stage BJT amplifier and its small signal equivalent models.					
C203.2	Analyze the small signal equivalent model for a multistage BJT amplifier and to determine the high frequency response of BJT amplifiers.					
C203.3	Apply the biasing methods in various configurations of its small signal model and to determine the high frequency response of JFET amplifiers.					
C203.4	Apply biasing methods in various configurations of its small signal models and to determine the high frequency response of MOSFET Amplifiers.					
C203.5	Understand the different stages of power supply modules.					
C203.6	Analyze the fault and to Troubleshoot dc power supplies.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C203.1	3	2	3	2	1	-	-	-	-	-	-	-	2	1	2.20
C203.2	3	2	1	2	1	-	-	-	-	-	-	-	2	1	1.80
C203.3	3	2	1	2	1	-	-	-	-	-	-	-	2	1	1.80
C203.4	3	2	1	2	1	-	-	-	-	-	-	-	2	1	1.80
C203.5	2	3	2	1	-	-	-	-	-	-	-	-	2	1	2.00
C203.6	3	2	2	1	-	-	-	-	-	-	-	-	2	1	2.00
AVG	2.83	2.17	1.67	1.67	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	



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R2017	C204	EC8352 SIGNALS AND SYSTEMS	L	T	P	C
			4	0	0	4
C204.1	Classify the signals and systems.					
C204.2	Represent signals in the time domain and frequency domain.					
C204.3	Determine the Fourier/ Laplace / Z Transforms of functions using the fundamental formulae and using their properties for continuous and Discrete functions.					
C204.4	Compute the response of the LTI system in the time domain and frequency domain.					
C204.5	Convert Continuous time signals to discrete time signals.					
C204.6	Realize systems in Direct form I / II or in parallel.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C204.1	3	3	1	1	3	-	-	-	-	-	-	-	1	2	2.20
C204.2	3	3	1	-	-	-	-	-	-	-	-	-	1	2	2.33
C204.3	3	3	1	1	-	-	-	-	-	-	-	-	1	2	2.00
C204.4	3	3	1	3	3	-	-	-	-	-	-	-	1	2	2.60
C204.5	3	3	1	-	3	-	-	-	-	-	-	-	1	2	2.50
C204.6	3	3	1	2	-	-	-	-	-	-	-	-	1	2	2.25
AVG	3.00	3.00	1.00	1.75	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	



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R2017	C205	EC8392 DIGITAL ELECTRONICS	L	T	P	C
			3	0	0	3
C205.1	Apply Boolean algebra and minimization techniques such as K map and tabulation method to reduce the no.of. Gates.					
C205.2	Design various combinational digital circuits using logic gates.					
C205.3	Design synchronous and asynchronous sequential circuits using state minimization and state assignment					
C205.4	Analyze synchronous and asynchronous sequential circuits to realize hazard and race free circuits.					
C205.5	Examine the structure of semiconductor memories to implement combinational circuits using PLD					
C205.6	Investigate the electronic circuits involved in the design of logic gates					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C205.1	3	3	2	2	-	-	-	-	-	-	-	1	2	2	2.20
C205.2	3	3	2	2	-	-	-	-	-	-	-	1	2	2	2.20
C205.3	3	3	2	2	-	-	-	-	-	-	-	1	2	2	2.20
C205.4	3	3	2	2	-	-	-	-	-	-	-	1	2	2	2.20
C205.5	3	1	2	1	-	-	-	-	-	-	-	1	2	2	1.60
C205.6	3	1	1	1	-	-	-	-	-	-	-	1	2	2	1.40
AVG	3.00	2.33	1.83	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	2.00	



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R2017	C206	EC8391 CONTROL SYSTEMS ENGINEERING	L	T	P	C
			3	0	0	3
C206.1	Identify the various control system components and their representations					
C206.2	Analysis the various frequency response plots and its system					
C206.3	Analysis the various frequency response plots and its system					
C206.4	Apply the concepts of various system stability criterions.					
C206.5	Design various transfer functions of digital control system using state variable models.					
C206.6	Design and discuss about the relative stability and nonlinear control systems					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C206.1	3	3	3	2	2	2	3	2	3	3	2	2	3	2	2.50
C206.2	3	3	3	2	2	2	3	2	3	2	2	2	3	2	2.42
C206.3	3	3	3	3	2	1	2	1	1	1	1	3	3	3	2.00
C206.4	2	2	3	3	3	1	2	1	1	1	1	3	3	3	1.92
C206.5	3	3	2	2	2	1	1	1	1	1	1	3	3	3	1.75
C206.6	3	3	3	3	2	3	2	2	3	3	2	2	3	3	2.58
AVG	2.83	2.83	2.83	2.50	2.17	1.67	2.17	1.50	2.00	1.83	1.50	2.50	3.00	2.67	



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R2017	C207	EC8381 FUNDAMENTALS OF DATA STRUCTURES IN C LABORATORY	L	T	P	C
			0	0	4	2
C207.1	Implement linear and non linear data structure operations using C					
C207.2	Suggest linear/nonlinear data structures for any given data set					
C207.3	Applying hashing concepts for a given problem					
C207.4	Modify or suggest a network data structures for an applications					
C207.5	Appropriately choose the sorting algorithms for an applications					
C207.6	Implement functions and recursive functions in using C programming					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C207.1	3	3	3	3	2	-	-	-	-	-	-	2	3	-	2.67
C207.2	3	3	3	3	2	-	-	-	-	-	-	2	3	2	2.67
C207.3	3	3	3	3	2	-	-	-	-	-	-	2	3	2	2.67
C207.4	3	3	3	3	2	-	-	-	-	--	-	2	3	1	2.67
C207.5	2	2	2	3	2	-	-	-	-	-	-	3	3	-	2.33
C207.6	2	2	3	3	2	-	-	-	-	-	-	3	3	-	2.50
AVG	2.67	2.67	2.83	3.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	3.00	1.67	



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R2017	C208	EC8361 ANALOG AND DIGITAL CIRCUITS LABORATORY	L	T	P	C
			0	0	4	2
C208.1	Understanding the basics of logic gates for implementing logic circuits.					
C208.2	Applying the knowledge of transistors for implementing analog circuits.					
C208.3	Analyze and simulate the frequency response of various amplifiers.					
C208.4	Test the truth table for various combinational and sequential logic circuits.					
C208.5	Evaluate the design parameters for single stage and multi stage amplifiers.					
C208.6	Design of regulated power supplies and digital logic circuits.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C208.1	3	-	1	-	-	-	1	-	-	-	-	-	2	2	1.67
C208.2	3	-	2	-	-	-	1	-	-	-	-	-	2	2	2.00
C208.3	3	2	2	2	3	-	-	-	-	-	-	-	2	2	2.40
C208.4	3	2	2	-	-	2	-	-	2	2	-	-	2	2	2.17
C208.5	3	3	3	1	-	-	-	-	-	2	-	-	2	2	2.40
C208.6	3	3	3	3	-	2	-	-	3	3	-	-	2	-	2.86
AVG	3.00	2.50	2.17	2.00	3.00	2.00	1.00	0.00	2.50	2.33	0.00	0.00	2.00	2.00	



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R2017	C209	HS8381 INTERPERSONAL SKILLS/LISTENING & SPEAKING	L	T	P	C
			0	0	2	1
C209.1	Comprehend information by listening actively and to give appropriate response					
C209.2	Articulate ideas and converse in formal and informal contexts with accuracy and clarity					
C209.3	Initiate conversations, compare and contrast information fluently, using lexical chunks					
C209.4	Participate effectively in group discussions and conversations by employing appropriate verbal and non-verbal feedback					
C209.5	Speak clearly and fluently with correct pronunciation, stress and intonation					
C209.6	Build interpersonal abilities in order to progress in the career (APPLY).					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C209.1	-	-	-	-	-	-	-	2	2	3	-	1	-	-	2.00
C209.2	-	-	-	-	-	-	-	-	2	3	-	-	-	-	2.50
C209.3	-	-	-	-	-	-	-	-	2	3	-	-	-	-	2.50
C209.4	-	-	-	-	-	-	-	2	3	3	-	1	-	-	2.25
C209.5	-	-	-	-	-	-	-	-	-	3	-	-	-	-	3.00
C209.6	-	-	-	-	-	-	-	2	2	3	-	3	-	-	2.50
AVG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.20	3.00	0.00	1.67	0.00	0.00	



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R2017	C210	MA8451 PROBABILITY AND RANDOM PROCESSES	L	T	P	C
			4	0	0	4
C210.1	Compute the probability of events, one dimensional, two-dimensional random variables defined on discrete and continuous sample space, and random variables associated with discrete and continuous distributions and limiting state probabilities of Markov chains.					
C210.2	Calculate the statistical averages namely mean, Variance Moments, Moment generating functions of a random variable, Autocorrelation, Cross correlation and power spectral density of a random processes and linear system					
C210.3	Apply Baye's theorem to find conditional probability, Central limit theorem to find the approximate probabilities of a sum of larger number of independent and identically distributed random variables					
C210.4	Explain Markov process, Poisson process, Random telegraph process and Classify a random process as stationary, Wide sense stationary, jointly Wide sense stationary based on its statistical averages.					
C210.5	Explain the properties of statistical averages of a random variable, random processes, Poisson process and linear system					
C210.6	Calculate the spectral properties of the output when the function is given as an input to a linear system					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C210.1	3	3	-	-	-	-	-	-	-	-	-	1	3	2	2.40
C210.2	3	3	-	-	-	-	-	-	-	-	-	1	3	2	2.40
C210.3	3	1	-	-	-	-	-	-	-	-	-	1	3	2	2.60
C210.4	3	1	-	-	-	-	-	-	-	-	-	1	3	2	2.33
C210.5	3	3	-	-	-	-	-	-	-	-	-	1	3	2	2.33
C210.6	3	3	-	-	-	-	-	-	-	-	-	1	3	2	2.33
<b>AVG</b>	<b>3.00</b>	<b>3.00</b>	<b>0.00</b>	<b>2.00</b>	<b>2.67</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.00</b>	<b>3.00</b>	<b>2.00</b>	



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R2017	C211	EC8452 ELECTRONIC CIRCUITS II	L	T	P	C
			3	0	0	3
C211.1	Predict the topology of a feedback amplifier, and determine the Stability characteristics.					
C211.2	Illustrate the feedback mechanism of circuits, and determine the parameters such as Frequency, Gain, Input, and Output Impedance					
C211.3	Analyze the Frequency of Oscillation of LC and RC Oscillators					
C211.4	Categorize the different wave shaping circuits and examine the Output response					
C211.5	Classify the tuned amplifier, Power amplifier in improving the gain					
C211.6	Illustrate the idea of biasing , Stability and oscillations in amplifier					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C211.1	3	2	2	1	1	-	-	-	-	-	-	-	-	-	1.80
C211.2	3	2	2	2	1	-	-	-	-	-	-	1	1	-	1.83
C211.3	3	2	2	2	1	-	-	-	-	-	-	1	1	1	1.83
C211.4	2	2	1	2	1	-	-	-	-	-	-	1-	1	1	1.60
C211.5	2	2	2	1	-	-	-	-	-	-	-	-	2	1	1.75
C211.6	3	3	2	2	-	-	-	-	-	-	-	-	1	-	2.50
AVG	2.67	2.17	1.83	1.67	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.20	1.00	



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R2017	C212	EC8491 COMMUNICATION THEORY	L	T	P	C
			3	0	0	3
C212.1	Apply various signals and its characteristics to design a communication system					
C212.2	Interpret various amplitude modulation techniques to model a communication system.					
C212.3	Discuss angle modulation techniques and compare various analog modulation techniques.					
C212.4	Formulate the properties of random process to generate a mathematical model for a noise in communication system.					
C212.5	Review and analyze the noise characteristics to evaluate the performance of analog modulation system.					
C212.6	Examine the conversion of continuous system to discrete system to develop pulse communication system					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C212.1	3	3	1	-	1	-	-	3	-	-	-	-	-	1	2.20
C212.2	3	3	3	-	3	-	-	3	-	-	-	-	-	1	3.00
C212.3	3	3	3	-	3	-	-	3	-	-	1	1	-	1	2.43
C212.4	3	-	1	-	1	-	-	1	-	-	-	-	-	1	1.50
C212.5	3	3	3	-	1	-	-	3	-	-	1	1	-	1	2.14
C212.6	3	3	3	-	3	-	-	3	-	-	3	3	-	1	3.00
AVG	3.00	3.00	2.33	0.00	2.00	0.00	0.00	2.67	0.00	0.00	1.67	1.67	0.00	1.00	



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R2017	C213	EC8451 ELECTROMAGNETIC FIELDS	L	T	P	C
			4	0	0	4
C213.1	Apply fundamentals of Vector analysis in 3D coordinate systems.					
C213.2	Review the basic concepts and laws in Electromagnetics					
C213.3	Compute the field quantities based on the concepts and laws					
C213.4	Examine the behavior of materials in Electric and Magnetic fields					
C213.5	Derive Maxwell's equations and wave equations for static and time varying fields					
C213.6	Analyze the propagation of Electromagnetic waves in lossy and lossless medium.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C213.1	3	3	-	-	3	-	-	-	-	-	-	-	-	2	3.00
C213.2	3	3	1	-	2	-	-	-	-	-	-	-	-	2	2.25
C213.3	3	3	2	-	3	-	-	-	-	-	1	-	-	2	2.40
C213.4	3	3	1	-	2	-	-	-	-	-	-	-	-	2	2.25
C213.5	3	3	3	-	3	-	-	-	-	-	-	-	-	2	3.00
C213.6	3	3	3	-	3	-	-	-	-	-	3	3	-	2	3.00
AVG	3.00	3.00	2.00	0.00	2.67	0.00	0.00	0.00	0.00	0.00	2.00	3.00	0.00	2.00	



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R2017	C214	EC8453 LINEAR INTEGRATED CIRCUITS	L	T	P	C
			3	0	0	3
C214.1	Understand the basic concepts and characteristics of linear integrated circuits.					
C214.2	Design and analyze various linear and non-linear applications of operational amplifiers					
C214.3	Explain the theory and applications of analog multipliers and PLL for different modulation techniques					
C214.4	Examine the behavior of different types of ADC and DAC					
C214.5	Generate a waveform using op-amp and IC 555 timer.					
C214.6	Illustrate the working of special function ICs for different system design.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C214.1	3	2	3	1	1	-	-	-	-	-	1	1	3	2	1.71
C214.2	3	2	3	2	1	-	1	-	-	1	2	2	3	2	1.89
C214.3	3	2	3	1	1	-	1	-	-	1	2	1	3	2	1.67
C214.4	1	2	3	1	2	-	2	-	-	1	2	2	1	2	1.78
C214.5	1	1	2	1	1	-	1	-	-	1	1	1	1	1	1.11
C214.6	1	2	1	-	1	-	3	-	-	1	1	-	1	2	1.43
AVG	2.00	1.83	2.50	1.20	1.17	0.00	1.60	0.00	0.00	1.00	1.50	1.40	2.00	1.83	



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R2017	C215	GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING	L	T	P	C
			3	0	0	3
C215.1	Understand the relationship between the environment and human activities to maintain the ecological balance.					
C215.2	Identify societal issues and implement suitable scientific, technological solutions to eradicate.					
C215.3	Acquire skills for scientific problem solving related to environmental pollution and disaster management.					
C215.4	Disseminate the need for the natural resources and its application to meet the modern requirements.					
C215.5	Aware of environmental issues and Protection Acts to achieve the Sustainable Development Goals.					
C215.6	Recognize the need for the population control measures and the environmental based value education concepts for attaining an ecofriendly environment					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C215.1	1	1	-	-	-	1	2	-	1	1	-	2	-	-	1.29
C215.2	2	2	2	-	2	2	3	1	2	2	-	2	-	-	2.00
C215.3	1	1	1	1	-	1	1	-	1	2	-	1	-	-	1.11
C215.4	2	2	2	2	1	1	1	-	1	1	1	1	-	-	1.36
C215.5	2	2	1	-	-	1	1	-	-	-	1	-	-	-	1.33
C215.6	1	1	1	1	1	1	1	1	1	1	1	1	-	-	1.00
AVG	1.50	1.50	1.40	1.33	1.33	1.17	1.50	1.00	1.20	1.40	1.00	1.40	0.00	0.00	



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R2017	C216	EC8461 CIRCUITS DESIGN AND SIMULATION LABORATORY	L	T	P	C
			0	0	4	2
C216.1	Identify the different topologies of feedback amplifiers					
C216.2	Understand the operation of oscillators					
C216.3	Understand the operation of Multivibrators					
C216.4	Understand the fundamental principles of designing amplifier circuits					
C216.5	To differentiate & analyze wave shaping circuits					
C216.6	Simulate the electronic circuits discussed in the course such as feedback amplifiers, oscillators and wave shaping circuits in circuit simulation environments					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C216.1	3	2	2	1	1	-	-	-	-	-	-	-	2	2	1.80
C216.2	3	2	2	1	1	-	-	-	-	-	-	-	2	1	1.80
C216.3	3	2	2	1	1	-	-	-	-	-	-	-	2	1	1.80
C216.4	3	2	2	2	1	-	-	-	-	-	-	-	2	1	2.00
C216.5	3	2	2	1	1	-	-	-	-	-	-	-	2	2	1.80
C216.6	2	1	1	2	2	-	-	-	-	-	-	-	2	3	1.60
AVG	2.83	1.83	1.83	1.33	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.67	



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R2017	C217	EC8462 LINEAR INTEGRATED CIRCUITS LABORATORY	L	T	P	C
			0	0	4	2
C217.1	Understand the basics of linear integrated circuits and available ICs					
C217.2	Design the linear and nonlinear operational amplifier circuits					
C217.3	Design Oscillators and Multivibrators using ICs					
C217.4	Design DC power supply using ICs					
C217.5	Analyze the working of PLL, Data converters					
C217.6	Analyze the performance of filters, Multivibrators, A/D converter and analog multiplier using PSPICE					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C217.1	3	-	-	-	-	-	-	-	-	-	-	1	-	2	2.00
C217.2	3	2	2	1	-	-	-	1	-	-	-	1	-	2	1.67
C217.3	3	2	2	1	-	2	-	1	-	-	-	1	-	2	1.71
C217.4	3	2	2	1	-	2	-	1	-	-	-	1	-	2	1.71
C217.5	3	2	2	2	2	2	-	1	-	-	-	1	-	2	1.88
C217.6	3	2	-	2	2	-	-	1	-	-	-	1	-	2	1.83
AVG	3.00	2.00	2.00	1.40	2.00	2.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	2.00	



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R2017	C301	EC8501 DIGITAL COMMUNICATION	L	T	P	C
			3	0	0	3
C301.1	Understanding the basic concepts of Information theory					
C301.2	Compute the source coding techniques such as Shannon Fano and Huffman coding.					
C301.3	Illustrate and compare the Encoding schemes such as DPCM, DM, ADPCM, ADM & LPC and different waveform coding schemes.					
C301.4	Analyze the base band transmission and Reception techniques					
C301.5	Evaluate the performance of digital modulation schemes such as BPSK, BFSK, QPSK, DPSK & QAM					
C301.6	Infer various channel coding and error coding techniques in digital communication					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C301.1	3	2	-	-	-	-	-	-	-	-	-	-	2.5	3	2.50
C301.2	3	2	1	-	1	-	-	-	-	-	-	1	1.5	3	1.60
C301.3	3	2	1	-	1	-	-	-	-	-	-	1	1.5	3	1.60
C301.4	3	2	1	-	1	-	-	-	-	-	-	1	1.5	3	1.60
C301.5	3	2	1	-	1	-	-	-	-	-	-	1	1.5	3	1.60
C301.6	3	2	1	-	1	-	-	-	-	-	-	1		3	1.60
AVG	3.00	2.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.70	3.00	



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R2017	C302	EC8553 DISCRETE-TIME SIGNAL PROCESSING	L	T	P	C
			4	0	0	4
C302.1	Analyze the signals in frequency domain using DFT and FFT algorithm.					
C302.2	Perform Linear filtering to demonstrate the output response of a system and characterize frequency selective filters.					
C302.3	Design digital IIR and FIR to select specific frequency components present in the signal.					
C302.4	Select appropriate realization structure for various filters and characterize the effects of finite word length in filters.					
C302.5	Analyze the errors due to quantization and realize architecture of digital signal processors.					
C302.6	Demonstrate their ability to program DSP processors for various signal processing applications.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C302.1	3	3	2	3	2	2	3	-	-	-	-	1	2	1	2.38
C302.2	3	2	3	2	-	2	2	-	-	-	-	-	-	1	2.33
C302.3	3	3	3	3	-	3	3	-	-	-	-	2	1	-	2.86
C302.4	3	2	3	2	-	2	2	-	-	-	-	-	3	1	2.33
C302.5	3	3	3	3	2	3	2	-	-	-	-	1	3	1	2.50
C302.6	3	2	2	2	3	3	3	-	-	-	-	3	3	1	2.63
AVG	3.00	2.50	2.67	2.50	2.33	2.50	2.50	0.00	0.00	0.00	0.00	1.75	2.40	1.00	



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R2017	C303	EC8552 COMPUTER ARCHITECTURE AND ORGANIZATION	L	T	P	C
			3	0	0	3
C303.1	Discuss the computer organization, Instruction set and performance of MIPS processors.					
C303.2	Illustrate the algorithms for arithmetic high-performance calculations and elements of modern instruction set.					
C303.3	Classify the performance of different pipelined processors and interpret parallel processing.					
C303.4	Categorize the memory design, performance improvement techniques and compare the properties of shared memory and multiprocessor systems.					
C303.5	Determine the concept of input and output organization and recall the internal communication methodologies.					
C303.6	Review the knowledge gained in various unconventional computer architectures and modern speed up technologies					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C303.1	3	2	2	1	-	1	-	-	-	-	-	2	2	2	1.83
C303.2	3	2	2	1	-	1	-	-	1	-	1	2	2	2	1.63
C303.3	3	2	1	1	-	1	-	1	1	-	-	2	2	2	1.50
C303.4	3	2	1	1	-	-	-	-	-	-	1	2	2	2	1.67
C303.5	3	2	1	1	-	-	-	-	-	-	1	2	2	2	1.67
C303.6	3	2	1	1	-	-	-	-	-	-	1	2	2	2	1.67
AVG	3.00	2.00	1.33	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	2.00	2.00	2.00	



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R2017	C304	EC8551 COMMUNICATION NETWORKS	L	T	P	C
			3	0	0	3
C304.1	Identify the different components and protocols required to build data communication networks.					
C304.2	Understand the required functionality of each layer for the given application.					
C304.3	Illustrate the data formats of each layer for successful end to end communication.					
C304.4	Analyze and trace the flow of information from one node to another node in the network.					
C304.5	Apply the ideas learnt in developing a computer network.					
C304.6	Design Security aspects at each layer of computer networks.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C304.1	2	3	2	2	3	1	2	-	-	2	-	-	3	3	2.13
C304.2	2	1	-	1	-	-	-	-	-	2	-	-	2	2	1.50
C304.3	2	2	-	-	-	-	-	-	-	2	-	-	2	2	2.00
C304.4	3	3	2	2	2	-	-	-	-	2	-	-	2	2	2.33
C304.5	3	3	3	2	2	2	-	-	-	2	-	-	2	2	2.43
C304.6	3	2	2	2	2	1	-	-	-	2	-	-	3	3	2.00
AVG	2.50	2.33	2.25	1.80	2.25	1.33	2.00	0.00	0.00	2.00	0.00	0.00	2.33	2.33	



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R2017	C305	OIT552 PROFESSIONAL ELECTIVE I (CLOUD COMPUTING)	L	T	P	C
			3	0	0	3
C305.1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing					
C305.2	Learn the key and enabling technologies that help in the development of cloud.					
C305.3	Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models					
C305.4	Explain the core issues of cloud computing such as resource management and security.					
C305.5	Choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.					
C305.6	Implement the end point applications on the cloud platforms with efficient load balancing and never terminating systems					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C305.1	2	1	2	2	2	-	3	-	-	-	-	2	3	2	2.00
C305.2	3	2	3	3	3	-	2	-	-	-	-	1	3	2	2.43
C305.3	2	1	3	3	3	-	3	-	-	-	-	1	2	2	2.29
C305.4	2	1	3	3	3	2	2	-	-	-	-	2	2	2	2.25
C305.5	3	1	2	2	2	2	2	-	-	3	3	2	2	2	2.20
C305.6	2	1	2	3	2	-	3	-	-	3	3	2	3	2	2.33
AVG	2.33	1.17	2.50	2.67	2.50	2.00	2.50	0.00	0.00	3.00	3.00	1.67	2.50	2.00	



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R2017	C306	EC8073 OPEN ELECTIVE I (MEDICAL ELECTRONICS)	L	T	P	C
			3	0	0	3
C306.1	Identify the amplitude and frequency of ECG, EEG, EMG & PCG.					
C306.2	Sketch the lead systems and recording setup of ECG, EEG, EMG & PCG for diagnosis.					
C306.3	Describe the measurement techniques for biochemical and non-electrical parameters for the purpose of screening.					
C306.4	Illustrate the working of assist devices and application of therapeutic instruments on different diseased conditions.					
C306.5	Explain the functioning of MRI and Ultrasound imaging for diagnosis.					
C306.6	Summarize the working principle of Bio -Telemetry, Tele-medicine and recent trends in various diagnostic equipment.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C306.1	3	3	2	2	1	1	-	-	-	-	-	1	2	1	1.86
C306.2	2	2	2	1	1	2	-	-	-	-	-	-	1	1	1.67
C306.3	2	2	2	2	2	-	2	-	-	-	-	-	2	1	2.00
C306.4	2	2	2	2	-	-	-	-	-	-	-	-	2	2	2.00
C306.5	2	2	-	1	-	1	-	-	-	-	-	-	1	1	1.50
C306.6	-	2	2	1	1	-	-	-	-	-	-	-	2	1	1.50
AVG	2.20	2.17	2.00	1.50	1.25	1.33	2.00	0.00	0.00	0.00	0.00	1.00	1.67	1.17	



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R2017	C307	EC8562 DIGITAL SIGNAL PROCESSING LABORATORY	L	T	P	C
			0	0	4	2
C307.1	Execute basic signal processing operations					
C307.2	Demonstrate their abilities towards MATLAB based implementation of various DSP					
C307.3	Analyze the architecture of a DSP processor					
C307.4	Design FIR and IIR filters in DSP processor for performing filtering operations over real time signals					
C307.5	Implement the FIR and IIR filters in DSP processor for performing filtering operations over real time signals					
C307.6	Design a DSP system for various applications of DSP					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C307.1	3	2	1	1	2	1	-	-	-	-	-	-	1	1	1.67
C307.2	3	3	1	1	2	2	-	-	-	-	1	1	3	1	1.75
C307.3	3	3	1	2	2	1	-	-	-	-	-	2	1	-	2.00
C307.4	3	2	3	3	3	3	-	-	-	-	3	2	3	2	2.75
C307.5	3	2	3	3	3	3	-	-	-	-	3	2	3	2	2.75
C307.6	3	2	3	3	3	3	-	-	-	-	3	2	3	3	2.75
AVG	3.00	2.33	2.00	2.17	2.50	2.17	0.00	0.00	0.00	0.00	2.50	1.80	2.33	1.80	



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R2017	C308	EC8561 COMMUNICATION SYSTEMS LABORATORY	L	T	P	C
			0	0	4	2
C308.1	Demonstrate the signal sampling and Multiplexing Scheme					
C308.2	Generate and detect amplitude and frequency modulation					
C308.3	Implement encoding schemes using PCM and DM techniques					
C308.4	Demonstrate base band transmission schemes such as ASK,BFSK,BPSK,QPSK,QAM and DPSK					
C308.5	Apply various channel coding schemes and demonstrate the improvement of noise performance					
C308.6	Simulate and validate the various functional modules of communication systems					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C308.1	3	-	-	3	3	-	-	-	-	-	3	3	2	2	3.00
C308.2	3	3	3	3	3	-	-	-	-	2	-	-	2	2	2.83
C308.3	3	3	3	2	3	-	-	-	-	2	-	-	2	2	2.67
C308.4	3	3	3	3	3	-	-	-	-	2	2	2	2	2	2.63
C308.5	-	-	-	-	-	3	-	-	-	-	-	-	2	2	3.00
C308.6	-	-	-	3	-	2	-	-	-	2	-	2	2	-	2.25
AVG	3.00	3.00	3.00	2.80	3.00	2.50	0.00	0.00	0.00	2.00	2.50	2.33	2.00	2.00	



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R2017	C309	EC8563 COMMUNICATION NETWORKS LABORATORY	L	T	P	C
			0	0	4	2
C309.1	Understand the communication between desktop computers and also familiar with IP configuration.					
C309.2	Create a scenario to study the performance of CSMA/CD and CSMA/CA Protocol through simulation.					
C309.3	Implement various flow control and error control protocols.					
C309.4	Analyze the characteristics of various network topologies through NS-2 simulation.					
C309.5	Develop a client server model for socket programming and also familiar with commands like Echo/Ping/talk.					
C309.6	Implement and compare the performance of various routing algorithms.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C309.1	3	2	2	3	2	1	_	_	1	-	2	3	2	1	2.11
C309.2	3	3	2	3	3	1	-	-	-	-	2	2	2	1	2.38
C309.3	3	2	3	3	3	1	-	-	-	-	2	1	3	-	2.25
C309.4	3	2	2	2	3	-	-	-	-	-	2	2	3	-	2.29
C309.5	3	3	2	2	2	1	-	-	-	-	1	2	2	1	2.00
C309.6	3	2	2	2	2	1	-	-	-	-	2	2	3	1	2.00
AVG	3.00	2.33	2.17	2.50	2.50	1.00	0.00	0.00	1.00	0.00	1.83	2.00	2.50	1.00	



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R2017	C310	EC8691 MICROPROCESSORS AND MICROCONTROLLERS	L	T	P	C
			3	0	0	3
C310.1	Understand architecture and operations of a microprocessor system in depth.					
C310.2	Demonstrate programming proficiency using the various addressing modes and data transfer through system bus of the microprocessor					
C310.3	Analyze, specify, design, write and test assembly language programs of interfacing with I/O and memory					
C310.4	Perform the detailed hardware design of the microcontroller system, and program the microcontroller using suitable techniques and software tools.					
C310.5	Design electrical circuitry to the Microcontroller I/O ports in order to interface it to external devices and comparison the performance of different processors					
C310.6	Design microprocessor and microcontroller based applications.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C310.1	3	3	3	2	-	-	-	-	1	2	3	3	1	1	2.50
C310.2	2	2	3	2	2	3	-	3	-	3	3	3	1	1	2.60
C310.3	2	2	3	3	3	3	-	3	2	3	3	3	3	3	2.73
C310.4	3	3	3	3	3	-	-	3	2	3	3	3	1	1	2.90
C310.5	3	3	3	3	3	3	2	2	2	-	3	3	3	1	2.73
C310.6	3	3	3	3	3	3	2	2	2	-	3	3	3	1	2.73
AVG	2.67	2.67	3.00	2.67	2.80	3.00	2.00	2.60	1.80	2.75	3.00	3.00	2.00	1.33	



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R2017	C311	EC8095 VLSI DESIGN	L	T	P	C
			3	0	0	3
C311.1	Apply the Fundamentals of CMOS transistors to derive its IV and CV Characteristics.					
C311.2	Design Combinational and Sequential Circuits to solve delay problems.					
C311.3	Analyze Power and Timing Issues of CMOS Circuits to reduce the power dissipation.					
C311.4	Develop the Architectural Choices and evaluate the performance tradeoff involved in designing and realizing the circuits in CMOS Technology.					
C311.5	Interpret the different FPGA and Memory Architecture to demonstrate different types of ASIC.					
C311.6	Elaborate different testing methods of VLSI Circuits to choose the right method.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C311.1	2	2	1	1	1	-	-	-	-	-	-	-	2	1	1.40
C311.2	3	3	3	2	2	-	-	-	-	-	-	-	3	3	2.60
C311.3	3	3	2	2	2	-	-	-	-	-	-	-	3	3	2.40
C311.4	3	3	3	2	1	-	-	-	-	-	-	-	3	3	2.40
C311.5	2	3	2	1	-	-	-	-	-	-	-	-	2	1	2.00
C311.6	3	2	2	2	-	-	-	-	-	-	-	-	2	1	2.25
AVG	2.67	2.67	2.17	1.67	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2.00	



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R2017	C312	EC8652 WIRELESS COMMUNICATION	L	T	P	C
			3	0	0	3
C312.1	Outline the different path loss models and design the link Budget for wireless channel.					
C312.2	Analyze the different multiple access Techniques such as TDMA,FDMA,CDMA,OFDMA					
C312.3	Design the cellular system and analyze the techniques to improve the capacity of the cellular system.					
C312.4	Design and implement various signaling schemes for Fading channels.					
C312.5	Compare and contrast the different multipath mitigation techniques and evaluate their performance.					
C312.6	Design the MIMO system with transmit and receive diversity and analyze its performance using CSI.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C312.1	3	3	-	2	1	1	-	-	-	1	-	1	3	-	1.71
C312.2	3	3	1	3	-	1	-	1	-	1	-	2	3	-	1.88
C312.3	3	2	-	3	2	1	-	-	-	1	-	2	3	-	2.00
C312.4	2	2	-	3	1	1	-	-	-	1	-	2	3	-	1.71
C312.5	2	2	-	3	2	1	-	-	-	1	-	2	3	-	1.86
C312.6	3	2	-	2	1	1	-	-	-	1	-	2	3	-	1.71
AVG	2.67	2.33	1.00	2.67	1.40	1.00	0.00	1.00	0.00	1.00	0.00	1.83	3.00	0.00	



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R2017	C313	MG8591 PRINCIPLES OF MANAGEMENT	L	T	P	C
			3	0	0	3
C313.1	Understand the management of an organization					
C313.2	Describe and discuss the elements of effective management					
C313.3	Discuss and apply the planning and organizing processes					
C313.4	Understand various types of control process					
C313.5	Describe various theories related to the development of leadership skills, motivation techniques, team work					
C313.6	Explain effectively through both oral and written presentation.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C313.1	-	-	-	2	-	2	1	-	3	1	3	2	-	2	2.00
C313.2	-	-	-	2	-	2	-	-	3	3	3	3	-	-	2.67
C313.3	-	-	-	2	-	2	2	-	3	2	3	2	-	-	2.29
C313.4	-	-	-	2	-	2	1	-	3	3	3	3	-	1	2.43
C313.5	-	-	-	2	-	3	3	3	3	3	3	3	-	3	2.88
C313.6	-	-	-	2	-	2	2	-	3	3	3	2	-	2	2.43
AVG	0.00	0.00	0.00	2.00	0.00	2.17	1.80	3.00	3.00	2.50	3.00	2.50	0.00	2.00	



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R2017	C314	EC8651 TRANSMISSION LINES AND RF SYSTEMS	L	T	P	C
			3	0	0	3
C314.1	Understanding the fundamentals of transmission line and propagation of signals					
C314.2	Analyze signal propagation at Radio frequencies.					
C314.3	Evaluate matching networks through smith chart					
C314.4	Analyze the Characteristics of TE, TM and TEM Waves					
C314.5	Design RF circuit using active components for communication applications					
C314.6	Discuss propagation of signals in transmission lines and guided medium					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C314.1	3	3	1	-	-	-	-	-	-	-	-	-	1	1	2.33
C314.2	3	3	-	-	-	-	-	-	-	-	-	-	1	1	3.00
C314.3	3	3	-	1	3	-	-	-	-	-	-	-	-	1	2.50
C314.4	3	3	-	3	1	-	-	-	-	-	-	-	-	1	2.50
C314.5	3	3	-	-	3	-	-	-	-	-	-	-	-	1	3.00
C314.6	3	3	-	3	3	-	-	-	-	-	-	-	-	1	3.00
AVG	3.00	3.00	1.00	2.33	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	



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R2017	C315	GE8075 PROFESSIONAL ELECTIVE - II (INTELLECTUAL PROPERTY RIGHTS)	L	T	P	C
			3	0	0	3
C315.1	Understanding, defining and differentiating different types of intellectual properties (IPs) and basic need for Intellectual Property					
C315.2	Understand the practical aspects of Registration of Intellectual Property Rights					
C315.3	Understand the Agreements and Legislations of IPR					
C315.4	Apply IP laws and Cyber laws to protect the digital products					
C315.5	Ability to manage Intellectual property portfolio to enhance the value of firm					
C315.6	Identify types of Intellectual Properties (IPs), the right of ownership, Constitutes IP infringement and scope of protection under IP Laws and Cyber law					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C315.1	2	2	3	2	2	2	2	3	3	2	2	2	2	2	2.25
C315.2	2	1	1	2	-	1	1	2	-	1	-	-	2	2	1.38
C315.3	1	-	-	1	-	1	-	2	1	2	-	-	2	2	1.33
C315.4	2	-	1	-	1	2	1	3	2	3	1	1	2	1	1.70
C315.5	2	2	1	2	-	1	-	2	1	1	-	1	2	1	1.44
C315.6	2	2	1	2	1	1	1	1	1	1	1	1	2	1	1.25
AVG	1.83	1.75	1.40	1.80	1.33	1.33	1.25	2.17	1.60	1.67	1.33	1.25	2.00	1.50	



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R2017	C316	EC8004 PROFESSIONAL ELECTIVE -II (WIRELESS NETWORKS)	L	T	P	C
			3	0	0	3
C316.1	Define various architecture and protocol layers of Wireless LAN, WPAN, Mobile IP and 3G networks.					
C316.2	Identify the various standards to connect multiple network components using session based routing and solutions.					
C316.3	Explain the implementation of mobile network layer and adhoc routing in wireless networks					
C316.4	Summarize the different forms of interconnectivity among homogenous and heterogeneous networks.					
C316.5	Illustrate the multimode applications for wireless network environment using wireless protocols and standards in 4G					
C316.6	Classify the multipoint and multichannel distribution systems for smart antennas with advanced broadband wireless services.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C316.1	3	3	2	-	-	-	-	-	-	-	-	1	1	2	2.25
C316.2	3	3	2	-	-	-	-	-	-	-	-	1	1	2	2.25
C316.3	3	3	2	2	-	-	-	-	-	-	-	1	1	2	2.20
C316.4	3	3	2	2	-	-	-	-	-	-	-	1	1	2	2.20
C316.5	3	3	2	2	1	-	-	-	-	-	-	1	2	2	2.00
C316.6	3	3	2	2	1	-	-	-	-	-	-	1	2	2	2.00
AVG	3.00	3.00	2.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.33	2.00	



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R2017	C317	EC8681 MICROPROCESSORS AND MICROCONTROLLERS LABORATORY	L	T	P	C
			0	0	4	2
C317.1	Write and execute programs for fixed and floating point arithmetic operations and MASM					
C317.2	Execute time delay, passwords, Printer Status, Serial & Parallel Interface					
C317.3	To generate waveforms through software with A/D & D/A interface					
C317.4	Apply arithmetic, logical operations, square and cube programs through 8051 kits and MASM					
C317.5	To unpack BCD to ASCII using 8051 kit and use MASM software to stimulate and emulate					
C317.6	To interface traffic light control, stepper motor execute, Digital Clock, Keyboard & Display					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C317.1	3	3	3	3	3	-	-	-	3	3	3	3	3	2	3.00
C317.2	3	3	3	3	3	-	-	-	3	3	3	3	2	2	3.00
C317.3	3	3	3	3	3	-	-	-	3	3	3	3	2	2	3.00
C317.4	3	3	3	3	3	-	-	-	3	3	3	3	2	2	3.00
C317.5	3	3	3	3	3	-	-	-	3	3	3	3	2	2	3.00
C317.6	3	3	3	3	3	-	-	-	3	3	3	3	2	2	3.00
AVG	3.00	3.00	3.00	3.00	3.00	0.00	0.00	0.00	3.00	3.00	3.00	3.00	2.17	2.00	



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R2017	C318	EC8661 VLSI DESIGN LABORATORY	L	T	P	C
			0	0	4	2
C318.1	Write HDL code for basic as well as advanced digital integrated circuits.					
C318.2	Model a Combinational circuit using hardware description language Verilog HDL and validate its functionality					
C318.3	Model a Sequential circuit using hardware description language Verilog HDL and validate its functionality					
C318.4	Import the logic modules into FPGA Boards.					
C318.5	Synthesize, Place and Route the digital IPs.					
C318.6	Design, Simulate and Extract the layouts of Analog IC Blocks using EDA tools					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C318.1	3	-	-	-	3	-	-	-	-	-	3	3	2	2	3.00
C318.2	3	2	3	-	3	-	-	-	-	2	-	-	2	2	2.60
C318.3	3	3	3	2	3	-	-	-	-	2	-	-	2	2	2.67
C318.4	2	3	-	3	-	-	-	-	-	2	2	2	2	2	2.33
C318.5	2	3	-	2	-	-	-	-	-	-	-	-	2	2	2.33
C318.6	3	3	-	3	3	-	-	-	-	2	-	2	2	-	2.67
AVG	2.67	2.80	3.00	2.50	3.00	0.00	0.00	0.00	0.00	2.00	2.50	2.33	2.00	2.00	



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R2017	C319	EC8611 TECHNICAL SEMINAR	L	T	P	C
			0	0	2	1
C319.1	Present their individual Strength, Weakness, Opportunities and Challenges to analyze self.					
C319.2	Share the significance of learning recent advancement in Electronics and communication Engineering.					
C319.3	Organize the presentation using the concepts of ordering and determining the central, main and supporting ideas.					
C319.4	Present any topic in any thrust areas with good communication skill in front of peers					
C319.5	Review and prepare the State-of-art technologies in the present technological developments.					
C319.6	Perform well in placement recruitment drive with good technical skills and communication skills.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C319.1	3	3	2	-	-	-	-	-	-	-	-	1	1	2	2.25
C319.2	3	3	2	-	-	-	-	-	-	-	-	1	1	2	2.25
C319.3	3	3	2	2	-	-	-	-	-	-	-	1	1	2	2.20
C319.4	3	3	2	2	-	-	-	-	-	-	-	1	1	2	2.20
C319.5	3	3	2	2	1	-	-	-	-	-	-	1	2	2	2.00
C319.6	3	3	2	2	1	-	-	-	-	-	-	1	2	2	2.00
AVG	3.00	3.00	2.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.33	2.00	



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R2017	C320	HS8581 PROFESSIONAL COMMUNICATION	L	T	P	C
			0	0	2	1
C320.1	Implement the employability and career skills relevant to engineering as a profession					
C320.2	Demonstrate a better understanding of the communication process by applying communication theories					
C320.3	Adapt the skills towards grooming as a professional					
C320.4	Execute and develop a planned approach towards building a career					
C320.5	Identify different types of personal interview skills through mock interviews and practices					
C320.6	Discuss and develop critical thinking ability and perform well in group discussion					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C320.1	-	-	-	-	-	-	-	-	1	3	2	-	-	-	2.00
C320.2	-	-	-	-	-	1	-	2	-	3	-	-	-	-	2.00
C320.3	-	-	-	-	-	1	-	2	2	3	-	-	-	-	2.00
C320.4	-	-	-	-	-	2	-	-	-	-	-	3	-	-	2.50
C320.5	-	-	-	-	-	-	-	-	2	3	1	1	-	-	1.75
C320.6	-	2	-	-	1	-	-	-	-	3	-	-	-	-	2.00
AVG	0.00	2.00	0.00	0.00	1.00	1.33	0.00	2.00	1.67	3.00	1.50	2.00	0.00	0.00	



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R2017	C401	EC8701 ANTENNAS AND MICROWAVE ENGINEERING	L	T	P	C
			3	0	0	3
C401.1	Understand the basic principles of antennas , microwaves and its parameters					
C401.2	Evaluate the various parameters of antennas and microwave devices					
C401.3	Design of various types of antenna and microwave devices					
C401.4	Analyze and measure the performance of antennas					
C401.5	Implementation of antenna and microwave devices for real time application					
C401.6	Examine the environmental condition and ethical values					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C401.1	3	1	1	3	2	-	-	-	-	-	-	1	2	2	1.83
C401.2	1	3	2	2	3	-	-	-	-	-	1	1	2	1	1.86
C401.3	2	2	3	3	3	-	-	-	-	2	2	1	1	2	2.25
C401.4	1	3	2	3	2	-	-	-	-	2	1	-	2	1	2.00
C401.5	1	2	3	3	3	-	-	-	-	2	2	1	1	2	2.13
C401.6	-	-	-	-	-	3	3	3	1	-	-	-	2	1	2.50
AVG	1.60	2.20	2.20	2.80	2.60	3.00	3.00	3.00	1.00	2.00	1.50	1.00	1.67	1.50	



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R2017	C402	EC8751 OPTICAL COMMUNICATION	L	T	P	C
			3	0	0	3
C402.1	Recognize and classify the structures of optical fibers and types					
C402.2	Explain the signal degradation factors associated with optical fiber					
C402.3	Illustrate the characteristics optical sources & detectors and their use in optical communication system					
C402.4	Discuss the fundamental receiver operation, pre amplifiers and various parameter measurements & Coupling Techniques					
C402.5	Appraise the knowledge gain on fiber optic systems and networks					
C402.6	Analyze the characteristics of optical fiber and Familiarize with Design considerations of fiber optic systems					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C402.1	3	2	-	-	-	-	-	-	1	1	1	2	1	1	1.67
C402.2	2	1	1	1	-	-	-	-	1	1	1	2	1	1	1.25
C402.3	3	2	2	2	2	-	-	-	-	-	-	2	1	1	2.17
C402.4	3	1	2	2	2	-	-	-	-	-	-	2	1	1	2.00
C402.5	3	2	1	1	2	-	-	-	-	-	-	2	1	1	1.83
C402.6	2	2	3	2	2	1	1	1	1	1	2	2	3	1	1.67
AVG	2.67	1.67	1.80	1.60	2.00	1.00	1.00	1.00	1.00	1.00	1.33	2.00	1.33	1.00	



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R2017	C403	EC8791 EMBEDDED AND REAL TIME SYSTEMS	L	T	P	C
			3	0	0	3
C403.1	Outline the concepts of embedded systems. Describe the architecture and programming of ARM processor.					
C403.2	Describe the architecture and programming of ARM processor					
C403.3	Use the system design techniques to develop software for embedded systems					
C403.4	Explain the basic concepts of real time Operating system design.					
C403.5	Model real-time applications using embedded-system concepts					
C403.6	Illustrate applications of ARM architecture					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C403.1	2	2	1	2	3	-	-	-	-	-	-	-	2	3	2.00
C403.2	2	2	3	1	2	-	-	-	-	-	-	-	2	3	2.00
C403.3	2	2	1	1	3	-	-	-	-	-	-	-	2	2	1.80
C403.4	2	2	3	3	3	-	-	-	-	-	2	2	2	3	2.43
C403.5	2	2	3	3	3	-	-	-	2	3	2	2	2	3	2.44
C403.6	2	2	2	2	3	-	-	-	2	2	2	2	2	3	2.11
AVG	2.00	2.00	2.17	2.00	2.83	0.00	0.00	0.00	2.00	2.50	2.00	2.00	2.00	2.83	



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R2017	C404	EC8702 AD HOC AND WIRELESS SENSOR NETWORKS	L	T	P	C
			3	0	0	3
C404.1	Describe the unique issues in ad-hoc/sensor networks					
C404.2	Explain the working principles of sensor nodes and sensor network architecture					
C404.3	Discuss the challenges in designing MAC and routing protocols for wireless ad hoc /sensor networks					
C404.4	Examine the challenges and issues in Transport layer protocol					
C404.5	Investigate security issues in wireless sensor networks and also examine the possible solutions.					
C404.6	Comprehend the various sensor network Platforms, tools and applications.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C404.1	3	2	2	-	-	-	-	1	1	-	1	1	1	1	1.57
C404.2	3	2	2	-	-	-	-	1	1	1	1	1	1	1	1.50
C404.3	3	2	2	-	-	-	-	1	1	-	1	1	1	1	1.57
C404.4	3	2	2	-	-	-	-	1	1	-	1	1	1	1	1.57
C404.5	3	2	2	-	-	-	-	1	1	-	1	1	1	1	1.57
C404.6	3	2	2	-	-	-	-	1	1	-	1	1	1	1	1.57
AVG	3.00	2.00	2.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	



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R2017	C405	CS8082 PROFESSIONAL ELECTIVE -III (MACHINE LEARNING TECHNIQUES)	L	T	P	C
			3	0	0	3
C405.1	To understand the need for machine learning for various problem solving					
C405.2	To Understand the mathematical concept behind the machine learning techniques					
C405.3	To study the various supervised, semi-supervised and unsupervised learning algorithms in machine learning					
C405.4	To learn about Instant Based Learning					
C405.5	To understand the concept of advanced learning techniques					
C405.6	To design appropriate machine learning algorithms for problem solving					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C405.1	3	2	2	3	3	2	-	-	2	1	1	3	3	2	2.20
C405.2	2	3	3	3	3	3	-	-	1	2	1	3	2	3	2.40
C405.3	2	3	3	2	2	2	-	-	1	1	2	3	2	3	2.10
C405.4	3	3	3	3	3	2	-	-	3	2	2	3	3	3	2.70
C405.5	2	3	3	3	3	2	-	-	2	2	2	3	2	3	2.50
C405.6	2	2	2	2	2	1	-	-	1	1	1	3	2	2	1.70
AVG	2.33	2.67	2.67	2.67	2.67	2.00	0.00	0.00	1.67	1.50	1.50	3.00	2.33	2.67	



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R2017	C406	OCE751 OPEN ELECTIVE - II (ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT)	L	T	P	C
			3	0	0	3
C406.1	Accomplish scoping and screening of developmental projects for environmental and social assessments					
C406.2	Interpret different methodologies for environmental impact prediction and assessment					
C406.3	Design environmental impact assessments and environmental management plans					
C406.4	Develop skills in identifying and solving problems by examining a range of environmental impact assessments					
C406.5	Appraise socioeconomic investigation of the environment in a project					
C406.6	Acquire knowledge to prepare environmental impact assessment reports					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C406.1	2	1	-	-	-	-	2	2	3	2	-	2	-	-	2.00
C406.2	3	2	-	2	3	-	-	-	-	-	-	-	-	-	2.50
C406.3	3	-	3	3	-	-	-	-	2	2	3	-	-	-	2.67
C406.4	1	1	3	3	1	2	3	1	-	-	-	2	-	-	1.89
C406.5	2	2	2	3	-	-	-	-	-	1	2	-	-	-	2.00
C406.6	1	-	-	-	2	2	-	-	-	-	1	2	-	-	1.60
AVG	2.00	1.50	2.67	2.75	2.00	2.00	2.50	1.50	2.50	1.67	2.00	2.00	0.00	0.00	



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R2017	C407	OME754 OPEN ELECTIVE - II (INDUSTRIAL SAFETY)	L	T	P	C
			3	0	0	3
C407.1	Able to identify various types of industrial hazards.					
C407.2	Familiar to prevent chemical, environmental mechanical, fire hazard through analysis.					
C407.3	Apply proper safety techniques in engineering and management					
C407.4	Design appropriate personal protective equipments to overcome disasters.					
C407.5	Develop analytical skill to understand safety system					
C407.6	Understanding capacity building concepts and planning of disaster managements					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C407.1	2	1	1	-	-	3	-	1	-	-	-	1	1	-	1.50
C407.2	1	3	-	2	-	-	-	-	-	-	-	-	-	-	2.00
C407.3	1	3	-	2	-	-	-	-	-	-	-	-	-	-	2.00
C407.4	1	3	-	2	-	-	-	-	-	-	-	-	-	-	2.00
C407.5	2	3	-	1	-	-	-	-	-	-	-	-	-	-	2.00
C407.6	1	2	1	1	-	3	2	1	1	1	-	1	1	1	1.40
AVG	1.33	2.50	1.00	1.60	0.00	3.00	2.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	



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R2017	C408	EC8711 EMBEDDED LABORATORY	L	T	P	C
			0	0	4	2
C408.1	Write programs in ARM for a specific Application					
C408.2	Interface memory and Write programs related to memory operations.					
C408.3	Interface A/D and D/A convertors with ARM system					
C408.4	Analyze the performance of interrupt.					
C408.5	Formulate a mini project using embedded system.					
C408.6	Implement and verify the real time applications					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C408.1	3	3	-	-	-	-	-	-	-	3	3	2	3	3	2.80
C408.2	3	3	3	2	2	1	-	-	-	2	-	2	3	2	2.25
C408.3	2	3	3	3	-	2	2	2	2	2	2	2	3	3	2.27
C408.4	3	3	3	2	-	3	2	2	-	3	2	2	3	3	2.50
C408.5	3	3	3	3	3	-	3	2	3	3	3	3	3	3	2.91
C408.6	2	3	3	-	-	-	-	2	-	3	-	3	3	-	2.67
AVG	2.67	3.00	3.00	2.50	2.50	2.00	2.33	2.00	2.50	2.67	2.50	2.33	3.00	2.80	



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R2017	C409	EC8761 ADVANCED COMMUNICATION LABORATORY	L	T	P	C
			0	0	4	2
C409.1	Understand the basic operating principles of single mode, multimode fibers, light sources, detectors					
C409.2	Design simple optical communication link by measuring the losses					
C409.3	Analyze the microwave passive devices like directional couplers, Tees, circulators and Isolators.					
C409.4	Analyze the characteristics of microwave vacuum tube source and semiconductor source					
C409.5	Analyze the Eye Pattern, Pulse broadening of optical fiber and the impact on BER					
C409.6	Analyze the Wireless Channel Characteristics and the performance of Wireless Communication channel					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C409.1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	1.50
C409.2	2	3	2	2	-	-	-	-	-	-	-	-	2	-	2.25
C409.3	3	3	2	2	-	-	-	-	-	-	-	-	2	-	2.50
C409.4	3	3	2	2	-	-	-	-	-	-	-	-	2	-	2.50
C409.5	3	1	2	2	2	-	-	-	-	-	-	-	2	2	2.00
C409.6	3	2	2	2	2	-	-	-	-	-	-	-	2	2	2.20
AVG	2.67	2.17	2.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	



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R2017	C410	EC8093 PROFESSIONAL ELECTIVE IV (DIGITAL IMAGE PROCESSING)	L	T	P	C
			3	0	0	3
C410.1	Review the fundamental concepts of a digital image processing system.					
C410.2	Analyze images in the frequency domain using various transforms.					
C410.3	Evaluate the techniques for image enhancement and image restoration.					
C410.4	Categorize various compression and restoration techniques.					
C410.5	Interpret various Image compression standards					
C410.6	Interpret image segmentation and representation techniques.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C410.1	3	2	1	1	-	-	-	-	-	1	-	1	2	2	1.50
C410.2	2	2	3	1	1	-	-	-	-	1	-	1	2	2	1.57
C410.3	2	2	2	2	2	-	-	-	-	1	-	1	2	2	1.71
C410.4	2	2	2	2	2	-	-	-	-	1	-	1	2	2	1.71
C410.5	2	2	2	2	2	-	-	-	-	1	-	1	2	2	1.71
C410.6	2	2	2	2	2	-	-	-	-	1	-	1	2	2	1.71
AVG	2.17	2.00	2.00	1.67	1.80	0.00	0.00	0.00	0.00	1.00	0.00	1.00	2.00	2.00	



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R2017	C411	GE8076 PROFESSIONAL ELECTIVE IV (PROFESSIONAL ETHICS IN ENGINEERING)	L	T	P	C
			3	0	0	3
C411.1	To acquire the basic knowledge of human values, morals, ethics, industrial standards, code of ethics and role of professional ethics in the engineering field.					
C411.2	To have an awareness of professional rights and responsibilities of an engineer, and to have an understanding for safety and risk benefit analysis.					
C411.3	To imbibe the various ethical theories developed and apply them for a professional and societal advancement.					
C411.4	To imbibe adequate knowledge about the culture & the value system adopted by MNC's, local business houses and to create an ethical based work environment.					
C411.5	To understand and solve the employees' conflict & grievances in an amicable and ethical way.					
C411.6	Formulate and provide solutions to overcome ethical issues for win-win outcome.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C411.1	3	3	3	-	-	1	1	3	2	2	-	2	3	2	2.22
C411.2	2	2	2	-	-	1	1	3	2	2	-	2	2	2	1.89
C411.3	2	1	1	-	-	1	1	3	2	2	-	2	3	2	1.67
C411.4	2	2	2	-	-	1	1	3	2	2	-	2	2	2	1.89
C411.5	2	1	1	-	-	1	1	3	2	2	-	2	3	2	1.67
C411.6	2	1	1	-	-	1	1	3	2	2	-	2	3	2	1.67
AVG	2.17	1.67	1.67	0.00	0.00	1.00	1.00	3.00	2.00	2.00	0.00	2.00	2.67	2.00	



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R2017	C412	EC8094 PROFESSIONAL ELECTIVE V (SATELLITE COMMUNICATION)	L	T	P	C
			3	0	0	3
C412.1	Recite the basic concepts of satellite orbits and its parameters					
C412.2	Explain various earth segment and space segment modules in the satellite system					
C412.3	Calculate Orbital parameters, Satellite link budget and its system performance					
C412.4	Analyze various access techniques and coding schemes in satellite systems					
C412.5	Compare various launching procedures of satellites and its application					
C412.6	Apply various communication techniques for satellite applications					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C412.1	3	3	1	2	3	2	-	-	3	2	2	3	2	2	2.40
C412.2	3	2	2	1	1	2	2	-	1	2	2	2	2	1	1.82
C412.3	3	3	2	2	2	1	2	-	2	1	2	2	2	1	2.00
C412.4	3	3	3	2	3	1	2	-	1	2	2	3	2	1	2.27
C412.5	2	1	1	1	2	1	1	-	-	2	2	3	2	2	1.60
C412.6	2	2	2	1	1	-	-	-	1	1	2	2	1	1	1.56
AVG	2.67	2.33	1.83	1.50	2.00	1.40	1.75	0.00	1.60	1.67	2.00	2.50	1.83	1.33	



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R2017	C413	GE8073 PROFESSIONAL ELECTIVE V (FUNDAMENTALS OF NANOSCIENCE)	L	T	P	C
			3	0	0	3
C413.1	Understand the properties of nanomaterials from its atomistic view point, and to classify solids.					
C413.2	Identify and apply various top down and bottom up approaches for synthesis of Nanomaterials.					
C413.3	Design and functionalization of Carbon Nano tubes, graphene, MEMS/NEMS, and Nano sensors.					
C413.4	Prepare and analyze the samples with suitable characterization techniques.					
C413.5	Acquire the knowledge of Quantum effects and apply the knowledge of system integration in CNTs, Nano sensors, MEMS/NEMS					
C413.6	Apply the knowledge of nanomaterials in various fields like Nano biotechnology, Nano medicines, Nano info tech and Nano computers.					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C413.1	3	2	2	3	-	-	-	-	-	1	-	2	2	2	2.17
C413.2	2	2	3	2	2	-	-	-	-	1	-	1	2	2	1.86
C413.3	2	2	2	2	2	-	-	-	-	1	-	2	2	2	1.86
C413.4	3	2	2	2	2	-	-	-	-	1	-	1	2	2	1.86
C413.5	2	2	2	2	2	-	-	-	-	1	-	2	2	2	1.86
C413.6	2	2	2	2	2	-	-	-	-	1	-	1	2	2	1.71
AVG	2.33	2.00	2.17	2.17	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.50	2.00	2.00	



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R2017	C414	EC8811 PROJECT WORK	L	T	P	C
			0	0	20	10
C414.1	Able to understand the concepts and design process of various electronics circuits and communication engineering					
C414.2	To develop and implement innovative ideas.					
C414.3	Able to identify and solving the real time problems					
C414.4	Able to attain leadership quality.					
C414.5	Able to publish the Research Finding through conference and journals and able to get the patent					
C414.6	Able to create a platform to enable the students to become an entrepreneur					

R2017	PROGRAM OUTCOMES												PSOs		CO target
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
C414.1	3	3	1	3	3	1	2	2	3	1	1	1	3	3	2.00
C414.2	3	1	1	2	2	1	2	1	1	1	2	2	3	3	1.58
C414.3	3	3	2	3	3	1	2	2	2	3	2	2	3	3	2.33
C414.4	3	2	2	2	2	1	1	1	1	2	1	2	3	3	1.67
C414.5	2	2	3	2	2	2	2	2	2	2	2	1	3	3	2.00
C414.6	3	3	2	2	3	2	2	2	2	2	2	2	3	3	2.25
AVG	2.83	2.33	1.83	2.33	2.50	1.33	1.83	1.67	1.83	1.83	1.67	1.67	3.00	3.00	