Indra Ganesan
COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NAAC with 'B+' Grade, 2(f) & 12B Status Institution by UGC
IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 2

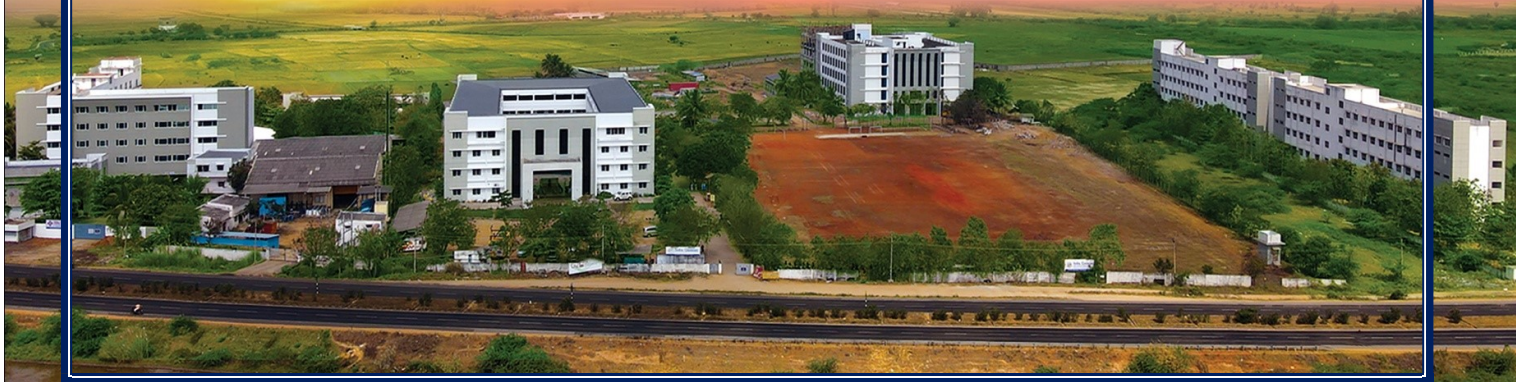
TEACHING-LEARNING AND EVALUATION

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL

INDRA GANESAN COLLEGE OF ENGINEERING



Indra Ganesan
COLLEGE OF ENGINEERING
Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
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NAAC Accredited, 2(F) Status Institution by UGC

Criteria 2	Teaching-Learning and Evaluation	350

Key Indicator-2.6 Student Performances and Learning Outcome (90)

2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all programmes offered by the institution are stated and displayed on website

DEPARTMENT OF S&H R2017

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India
(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)
DEPARTMENT OF SCIENCE AND HUMANITIES

COURSE OUTCOMES - REGULATIONS 2017

I SEMESTER

COURSE OUTCOMES - REGULATIONS 2017- I SEMESTER

Course Code	Course Name	Course Outcome(CO) Students will be able to
HS8151	COMMUNICATIVE ENGLISH	**CIOI.1:** Develop vocabulary of a general kind by developing their reading skills
		CIOI.2: Explain their opinions in English and Participateeffectively in informal conversations; introduce themselves and their friends
		CIOI.3: Comprehend conversations an·d short talks delivered in English.
		CIOI.4: Write short essays of a general kind and personal letters and emails in English
		CIOI.5: Develop their speaking skills and speak fluently in real contexts.
		CIOI.6: Discuss about the general kind in magazines and newspapers

CO-PO MAPPING

Cos	Pos												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C101.1	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C101.2	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C101.3	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C101.4	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C101.5	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C101.6	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C101	-	-	-	-	-	**2**	**2**	**2**	**2**	**2**	-	2	-	-	-

***3-High correlation; 2- Medium correlation; 1-Low correlation**

Dr. G. Balakrishnan, M.E., Ph.D.,
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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
MA8151	ENGINEERING MATHEMATICS - I	**C102.1:Apply** 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 integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables
		Cl 02.5:Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts
		C102.6:Apply various techniques in solving differential equations.

CO-PO MAPPING

Cos	Pos												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POI I	PO12	PSO 1	PSO2	PSO3
C102.1	3	2	2	2	-	-	-	-	-	2	-	2	-	2	-
C102.2	3	2	2	2	-	-	-	-	-	2	-	2	-	2	-
C102.3	3	2	2	2	-	-	-	-	-	2	-	2	-	2	-
Cl02.4	3	2	2	2	-	-	-	-	-	2	-	2	-	2	-
Cl02.5	3	2	2	2	-	-	-	-	-	2	-	2	-	2	-
C102.6	3	2	2	2	-	-	-	-	-	2	-	2	-	2	-
C102	3	2	2	2	-	-	-	-	-	**2**	-	2	-	**2**	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
PH8151	ENGINEERING PHYSICS	**C103.1:Explain** the basics of properties of matter and its applications.
		C103.2:Describe the characteristics oflaser light and their application in semiconductor laser
		C103.3:Discuss the principle behind the propagation oflight through an optical fiber and its application in sensors
		C103.4:Summarize the different modes of heat transfer.
		C103.5:Relate the quantum concepts in electron microscopes
		C103.6:Describe the unit cell characteristics and the growth of crystals.

CO-PO MAPPING

Cos	Pos												PSO		
	POI	P02	P03	P04	POS	P06	PO7	P08	P09	POIO	POii	PO12	PSO I	PSO2	PSO3
C103.1	2	2	1	1	-	-	1	-	-	1	-	1	2	-	-
C103.2	2	2	1	1	-	-	1	-	-	1	-	1	2	-	-
C103.3	2	2	1	1	-	-	1	-	-	1	-	1	2	-	-
C103.4	2	2	1	1	-	-	1	-	-	1	-	1	2	-	-
C103.5	2	2	1	1	-	-	1	-	-	1	-	1	2	-	-
C103.6	2	2	1	1	-	-	1	-	-	1	-	1	2	-	-
C103	**2**	**2**	**1**	**1**	**-**	**-**	**1**	**-**	**-**	**1**	**-**	**1**	**2**	-	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to •
CY8151	ENGINEERING CHEMISTRY	**C104.1:Summarize** the water related problems in boilers and their treatment techniques
		C104.2:Discuss the applications of adsorption in the field of water and air pollution abatement
		C104.3:Discuss the types of catalysis and the mechanism of enzyme catalysis
		C104.4:Apply phase rule in the alloying and the behavior of one component and two component systems using phase diagram
		C104.5:Explain various types of fuels, their manufacturing processes and calculation of calorific theoretically
		Cl04.6:Summarize the principles and generation of energy in batteries ,nuclear reactors, solar cells, wind mills and fuelcells

CO-PO MAPPING

Cos	Pos												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POI I	PO12	PSO I	PSO2	PSO3
C104.1	3	2	1	1	-	-	1	-	-	1	-	1	-	-	-
C104.2	3	2	1	1	-	-	1	-	-	1	-	1	-	-	-
C104.3	3	2	1	1	-	-	1	-	-	1	-	1	-	-	-
Cl04.4	3	2	1	1	-	-	1	-	-	1	-	1	-	-	-
Cl04.5	3	2	1	1	-	-	1	-	-	1	-	1	-	-	-
Cl04.6	3	2	1	1	-	-	1	-	-	1	-	1	-	-	-
Cl04	**3**	**2**	**1**	**1**	-	-	**1**	-	-	**1**	-	**1**	-	-	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE8151	PROBLEM SOLVING AND PYTHON PROGRAMMING	**C105.1:Explain** the basics of fundamentals of computing.
		C105.2:Describe the basics of algorithmic problem solving
		C105.3:Solve problems using Python conditionals and loops
		C105.4:Define Python functions and use function calls to solve problems
		C105.5:Apply Python data structures - lists, tuples, dictionaries to represent complex data
		C105.6:Explain the importance of Read and write data from/to files in Python programs

CO-PO MAPPING

Cos	Pos												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C105.1	2	2	1	1	1	-	-	-	-	1	-	1	1	-	1
C105.2	3	2	2	1	1	-	-	-	-	1	-	1	1	-	1
C105.3	2	2	2	1	1	-	-	-	-	1	-	1	1	-	1
C105.4	2	2	2	1	1	-	-	-	-	1	-	1	1	-	1
C105.5	3	2	2	1	1	-	-	-	-	1	-	1	1	-	1
C105.6	2	2	1	1	1	-	-	-	-	1	-	1	1	-	1
C105	**2**	**2**	**2**	**1**	1	-	-	-	-	**1**	-	**1**	**1**	-	**1**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE8152	ENGINEERING GRAPHICS	Cl06.1:Familiarize with the fundamentals and standards of Engineering graphics
		C106.2:Perform freehand sketching of basic geometrical constructions and multiple views of objects
		C106.3:Project orthographic projections oflines and plane surfaces
		C106.4:Draw projections and solids and development of surfaces
		C106.S:Visualize and to project isometric sections of simple solids.
		C106.6: Visualize and to project perspective sections of simple solids.

CO-PO MAPPING

Cos	Pos												PSO		
	POl	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POlO	POii	POl2	PSO I	PSO2	PSO3
C106.1	3	2	1	1	-	1	1	-	1	1	1	-	2	-	-
C106.2	3	2	1	1	-	1	1	-	1	1	1	-	2	-	-
C106.3	3	2	1	1	-	1	1	-	1	1	1	-	2	-	-
C106.4	3	2	1	1	-	1	1	-	1	1	1	-	2	-	-
C106.S	3	2	1	1	-	1	1	-	1	1	1	-	2	-	-
C106.6	3	2	1	1	-	1	1	-	1	1	1	-	2	-	-
C106	**3**	**2**	**1**	**1**	-	**1**	**1**	-	**1**	**1**	**1**	-	**2**	-	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE8161	PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY	**C107.1:Develop** algorithmic solutions to simple computational problems
		C107.2:Design and execute simple Python programs.
		C107.3:Solve programs ini?ython using conditionals and loops for solving problems.
		C107.4:Apply functions to decompose a Python program.
		C107.5:Analyze compound data using Python data structures
		C107.6:Utilize Python packages in developing software applications.

CO-PO MAPPING

Cos	Pos												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C107.1	3	2	2	1	1	-	-	-	1	1	-	1	2	-	2
C107.2	3	2	2	1	1	-	-	-	1	1	-	1	2	-	2
C107.3	3	2	2	1	1	-	-	-	1	1	-	1	2	-	2
C107.4	3	2	2	1	1	-	-	-	1	1	-	1	2	-	2
C107.5	3	2	2	1	1	-	-	-	1	1	-	1	2	-	2
C107.6	3	2	2	1	1	-	-	-	1	1	-	1	2	-	2
C107	**3**	**2**	**2**	**1**	**1**	-	-	-	**1**	**1**	-	**1**	**2**	-	**2**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
BS8161	PHYSICS AND CHEMISTRY LABORATORY	**Cl 08.1:** Determine the Modulus of elasticity of materials and Coefficient of Viscosity of liquids.
		C108.2: Determine the Thermal Conductivity of bad conductor using Lee's disc method.
		C108.3: Determination of wavelength, and particle size using Laser and Determination of acceptance angle in an optical fiber.
		C108.4: Calculate water quality parameters such as hardness, alkalinity of the given water sample.
		C108.5: Estimate the amount of the given acids using Ph titrations.
		C108.6:Determine the amount of iron content in the given substance using potentiometric titration and Determine the amount of chloride content in the given water sample

CO-PO MAPPING

Cos	Pos												PSO		
	POI	P02	P03	P04	POS	P06	P07	POS	P09	POIO	POll	P012	PSO 1	PS02	PS03
C108.1	3	2	2	1	1	-	-	-	1	1	-	1	2	1	-
C108.2	3	2	2	1	1	-	-	-	1	1	-	1	2	1	-
C108.3	3	2	2	1	1	-	-	-	1	1	-	1	2	1	-
C108.4	3	2	2	1	1	-	-	-	1	1	-	1	2	1	-
C108.5	3	2	2	1	1	-	-	-	1	1	-	1	2	1	-
C108.6	3	2	2	1	1	-	-	-	1	1	-	1	2	1	-
C108	**3**	**2**	**2**	**1**	**1**	-	-	-	**1**	**1**	-	**1**	**2**	1	-

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COURSE OUTCOMES-REGULATIONS 2017

II SEMESTER

COURSE OUTCOMES - REGULATIONS 2017- II SEMESTER

Course Code	Course Name	Course Outcome(CO) Students will be able to
HS8251	TECHNICAL ENGLISH	**C109.1:Apply** strategies in reading and comprehending engineering and technology text.
		C109.2:Use convincing job applications.
		C109.3:Apply speaking skill to make technical presentations.
		C109.4: Use the formats for effective report writing.
		C109.5:Apply speaking skill to participate in group discussions.
		C109.6:Apply the active listening skills to comprehend lectures and technical talks.

CO-PO MAPPING

COS	POs												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C109.1	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C109.2	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C109.3	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C109.4	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C109.5	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C109.6	-	-	-	-	-	2	2	2	2	2	-	2	-	-	-
C109	-	-	-	-	-	**2**	**2**	**2**	**2**	**2**	-	**2**	-	-	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
MA8251	ENGINEERING MATHEMATICS - II	**CII0.1:Explain** about the Eigenvalues and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices
		CII0.2:Apply Gradient, divergence and curl of a vector point function and related identities
		CII0.3:Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification
		CII0.4:Evaluate the problems based on Analytic functions, conformal mapping and complex integration
		CII0.5:Explain about the Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients
		CII0.6:Evaluate the linear second order differential equations with constant coefficients

CO-PO MAPPING

COS	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POI0	POii	PO12	PSO I	PSO2	PSO3
CII0.1	3	2	2	2	-	-	-	-	-	2	-	2	1	I	-
CII0.2	3	2	2	2	-	-	-	-	-	2	-	2	1	1	-
CII0.3	3	2	2	2	-	-	-	-	-	2	-	2	1	I	-
CII0.4	3	2	2	2	-	-	-	-	-	2	-	2	1	1	-
CII0.5	3	2	2	2	-	-	-	-	-	2	-	2	1	I	-
CII0.6	3	2	2	2	-	-	-	-	-	2	-	2	1	I	-
CII0	**3**	**2**	**2**	**2**	**-**	**-**	**-**	**-**	**-**	**2**	**-**	**2**	**1**	**1**	**-**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
PH8253	PHYSICS FOR ELECTRONICS ENGINEERING	**CIII.1:Gain** knowledge on classical and quantum electron theories, and energy band structures,
		CII 1.2:Acquire knowledge on basics of semiconductor physics and its applications in various devices,
		CIII.3:Get knowledge on magnetic properties.
		CII 1.4: Establish knowledge on dielectric properties of materials.,
		CIII.5:Explain the necessary understanding on the functioning of optical materials for optoelectronics
		CIII.6:Comprehend the basics of quantum structures and their applications in spintronics and carbon electronics.

CO-PO MAPPING

COS	POs												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
CIII.1	2	2	2	2	-	-	-	-	-	2	-	2	2	2	-
CIII.2	2	2	2	2	-	-	-	-	-	2	-	2	2	2	-
CIII.3	2	2	2	2	-	-	-	-	-	2	-	2	2	2	-
CIII.4	2	2	2	2	-	-	-	-	-	2	-	2	2	2	-
CIII.5	2	2	2	2	-	-	-	-	-	2	-	2	2	2	-
CIII.6	2	2	2	2	-	-	-	-	-	2	-	2	2	2	-
CIII	**2**	**2**	**2**	**2**	**-**	**-**	**-**	**-**	**-**	**2**	**-**	**2**	**2**	**2**	**-**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
BE8254	BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING	**C112.1:Explain** the concept of three phase power circuits and measurement.
		C112.2:Comprehend the concepts in electrical generators, motors and transformers
		C112.3:Explain the principles of DC electrical machines
		C112.4:Explain the operation of AC electrical machines
		C112.5:Summarize the characteristics of the measuring instruments and its errors
		Cl 12.6;Explain the working of different types of transducers, storage and display devices

CO-PO MAPPING

COS	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C112.1	2	2	2	2	-	1	-	-	-	1	-	1	I	-	-
C112.2	2	2	2	2	-	1	-	-	-	1	-	1	I	-	-
Cl12.3	2	2	2	2	-	1	-	-	-	1	-	1	I	-	-
C112.4	2	2	2	2	-	1	-	-	-	1	-	1	I	-	-
C112.5	2	2	2	2	-	1	-	-	-	1	-	1	I	-	-
C112.6	2	2	2	2	-	1	-	-	-	1	-	1	I	-	-
C112	**2**	**2**	**2**	**2**	-	**1**	-	-	-	**1**	-	**1**	I	-	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8251	CIRCUIT ANALYSIS	**C113.1:Explain** the basic circuit elements, fundamental laws applied for circuits.
		C113.2:Solve complex circuits using Mesh & Nodal Method
		Cl 13.3:Deduce the complicated circuits into simple circuits using Theorems
		C113.4:Explain 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.

CO-PO MAPPING

COS	POs												PSO		
	POI	P02	P03	P04	POS	P06	PO7	P08	P09	POIO	POii	P012	PSO I	PSO2	PSO3
C113.1	3	2	2	1	1	-	-	-	-	1	-	1	2	1	-
C113.2	3	2	2	1	1	-	-	-	-	1	-	1	2	1	-
C113.3	3	2	2	1	1	-	-	-	-	1	-	I	2	1	-
C113.4	3	2	2	1	1	-	-	-	-	1	-	I	2	1	-
C113.5	3	2	2	1	1	-	-	-	-	1	-	I	2	1	-
C113.6	3	2	2	1	1	-	-	-	-	1	-	I	2	1	-
C113	**3**	**2**	**2**	**1**	**1**	-	-	-	-	**1**	-	**1**	**2**	**1**	-

***3-High correlation; 2- Medium correlation; 1-Low correlation**

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COURSE OUTCOMES- REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8252	ELECTRONIC DEVICES	**C114.1:Describe** the principle and characteristics of semiconductor diode
		C114.2:Analyze various transistor configurations
		C114.3:Construct large signal modeling and small signal modeling of a transistor
		C114.4:Describe the principle of operation and characteristics of special semiconductor diodes
		C114.5;Discuss the operation of various semiconductor photo devices and power electronic devices
		C114.6:Implement real time applications using electronic devices

CO-PO MAPPING

COs	POs												PSO		
	PO I	P02	P03	P04	POS	P06	P07	P08	P09	POto	POll	POI2	PSO I	PS02	PS03
C114.1	3	2	1	1	1	1	-	-	-	-	1	1	2	2	1
C114.2	3	2	1	1	1	1	-	-	-	-	1	1	2	2	1
C114.3	3	2	1	1	1	1	-	-	-	-	1	1	2	2	1
C114.4	3	2	1	1	I	1	-	-	-	-	1	1	2	2	1
C114.5	3	2	1	1	I	1	-	-	-	-	1	1	2	2	1
C114.6	3	2	1	I	1	1	-	-	-	-	1	1	2	2	1
C114	**3**	**2**	**1**	I	I	I	-	-	-	-	I	I	**2**	2	I

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8261	CIRCUITS AND DEVICES LABORATORY	ClIS.1:Analyze the characteristics of basic electronic devices
		ClIS.2:Design RL and RC circuits
		ClIS.3:Verify KVL & KCL
		ClIS.4:Verify Thevinin & Norton theorems
		ClIS.5:Verify the Super Position Theorems
		ClIS.6:Explain the response ofRLC circuit with different inputs

CO-PO MAPPING

COS	POs												PSO		
	PO I	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POI I	PO12	PSO 1	PSO2	PSO3
ClIS.1	3	2	2	1	2	-	-	-	2	2	1	1	-	-	-
ClIS.2	3	2	2	1	2	-	-	-	2	2	1	1	2	1	-
ClIS.3	3	2	2	1	2	-	-	-	2	2	1	1	2	1	-
ClIS.4	3	2	2	1	2	-	-	-	2	2	1	1	-	1	-
ClIS.5	3	2	2	1	2	-	-	-	2	2	1	1	2	-	-
ClIS.6	3	2	2	1	2	-	-	-	2	2	1	1	-	-	-
C115	3	2	2	I	2	--	-	-	2	2	I	I	2	I	I

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE8261	ENGINEERING PRACTICES LABORATORY	C116.1:Fabricate carpentry components and pipe connections including plumbing works.
		C116.2: Use welding equipments to join the structures
		C116.3:Carry out the basic machining operations
		C116.4:Make the models using sheet metal works
		C116.5:Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings
		C116.6:Carry out basic home electrical works and appliances

CO-PO MAPPING

COs	POs												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C116.1	3	2	2	2	-	2	-	-	1	1	-	1	2	2	1
C116.2	3	2	2	2	-	2	-	-	1	1	-	1	2	2	1
C116.3	3	2	2	2	-	2	-	-	1	1	-	1	2	2	1
C116.4	3	2	2	2	-	2	-	-	1	1	-	1	2	2	1
C116.5	3	2	2	2	-	2	-	-	1	1	-	1	2	2	1
C116.6	3	2	2	2	-	2	-	-	1	1	-	1	2	2	1
Cl 16	**3**	**2**	**2**	**2**	**-**	**2**	-	-	**1**	**1**	-	**1**	**2**	**2**	**1**

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III SEMESTER

COURSE OUTCOMES - REGULATIONS 2017 - SEMESTER III

Course Code	Course Name	Course Outcome(CO) Students will be able to
MA8352	LINEAR ALGEBRA AND PARTIAL DIFFERENTIAL EQUATIONS	**C201.1:Explain** the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.
		C201.2:Demonstrate accurate and efficient use of advanced algebraic techniques.
		C201.3:Describe matrix representation of a linear transformation.
		C201.4:Demonstrate their mastery by solving non - trivial problems related to the concepts and by proving simple theorems about the statements proven bythe text.
		C201.5:Able to solve various types of partial differential equations.
		C201.6:Able to solve engineering problems using Fourier senes.

CO-PO MAPPING

COS	POs												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C201.1	3	2	1	1	-	-	-	-	-	1	-	1	1	1	-
C201.2	3	2	1	1	-	-	-	-	-	1	-	1	1	1	-
C201.3	3	2	1	1	-	-	-	-	-	1	-	1	1	1	-
C201.4	3	2	1	1	-	-	-	-	-	1	-	1	1	1	-
C201.5	3	2	1	1	-	-	-	-	-	1	-	1	1	1	-
C201.6	3	2	1	1	-	-	-	-	-	1	-	1	-	1	-
C201	3	2	1	1	-	-	-	-	-	1	-	1	1	1	-

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8393	FUNDAMENTALS OF DATA STRUCTURES IN C	**C202.1:Explain** the features of C.
		C202.2:Explain the basic concepts of functions, structures of C.
		C202.3:Demonstrate linear and non-linear data structure operatiom using C
		C202.4:Choose appropriate linear structure for any given data set non-linear data
		C202.5:Choose appropriate non-linear data structure for any given data set
		C202.6:Relate hashing concept and sorting algorithm for a given problem.

CO-PO MAPPING

COS	PO												PSO		
	POI	PO I	PO2	PO3	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C202.1	3	2	2	2	2	-	-	-	-	-	-	-	2	1	1
C202.2	3	2	2	2	2	-	-	-	-	-	-	-	2	1	1
C202.3	3	2	2	2	2	-	-	-	-	-	-	-	2	1	1
C202.4	3	2	2	2	2	-	-	-	-	-	-	-	2	1	1
C202.5	3	2	2	2	2	-	-	-	-	-	-	-	2	1	1
C202.6	3	2	2	2	2	-	-	-	-	-	-	-	2	1	1
C202	3	2	2	2	2	-	-	-	-	-	-	-	2	1	1

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8351	ELECTRONICS CIRCUITS-I	**C203.1:Recall** a structure of BJT
		C203.2:Describe the need for biasing
		C203.3: Summarize selection of operating point of transistor
		C203.4:Demonstrate various biasing circuits for BJT,FET and MOSFET
		C203.5:Relate bias compensation techniques
		C203.6:Select low frequency and high frequency model

CO-PO MAPPING

cos	POs												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C203.1	3	2	2	-	-	-	-	1	1	-	-	-	-	2	-
C203.2	3	2	2	-	-	-	-	1	1	-	-	-	1	2	-
C203.3	3	2	2	-	-	-	-	1	1	-	-	-	1	2	-
C203.4	3	2	2	-	-	-	-	1	1	-	-	-	1	2	-
C203.5	3	2	2	-	-	-	-	1	1	-	-	-	1	2	-
C203.6	3	3	2	-	-	-	-	1	1	-	-	-	1	3	1
C203	2	2	2	-	-	-	-	1	1	-	-	-	1	2	1

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8352	SIGNALS AND SYSTEMS	C204.1:Represent basic continuous time and discrete time signals and systems.
		C204.2:Explain signal properties such as periodicity, even or odd, energy or power and system properties such as causality, linearity and time invariance
		C204.3:Find the response of an LTI System for a given continuous time or discrete time input signal
		C204.4:Determine the frequency response of periodic anda periodic continuous time signals and discrete time signals
		C204.5:Convert a continuous time signal into discrete time signal and reconstruct the continuous time signal.
		C204.6:Summarize the LTI system using z-Transforms

CO-PO MAPPING

cos	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	POI2	PSO I	PSO2	PSO3
C204.1	3	3	2	2	2	-	-	-	-	-	-	-	2	2	-
C204.2	3	3	2	2	2	-	-	-	-	-	-	-	2	2	-
C204.3	3	3	2	2	2	-	-	-	-	-	-	-	2	2	I
C204.4	3	3	2	2	2	-	-	-	-	-	-	-	2	2	I
C204.5	3	3	2	2	2	-	-	-	-	-	-	-	2	2	I
C204.6	3	3	2	2	2	-	-	-	-	-	-	-	2	2	-
C204	3	3	2	2	2	-	-	-	-	-	-	-	2	2	I

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8392	DIGITAL ELECTRONICS	C205.1:Understand the number system representations,base conversions, Boolean algebra, Canonical forms
		C205.2:Apply the minimization technique for digital systems in many applications
		C205.3:Apply and implement combinational using logic functions
		C205.4:Explain and implement sequential circuits using logic functions
		C205.5:Summarize the characteristics of memory and implement digital functions using PLDs
		C205.6:Explain the logic families and their characteristics used in integrated circuits

CO-PO MAPPING

cos	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C205.1	3	2	1	1	2	-	-	-	-	2	-	1	2	2	-
C205.2	3	2	1	1	2	-	-	-	-	2	-	1	2	2	1
C205.3	3	2	1	1	2	-	-	-	-	2	-	1	2	2	1
C205.4	3	2	1	1	2	-	-	-	-	2	-	1	2	2	-
C205.5	3	2	1	1	2	-	-	-	-	2	-	1	2	2	-
C205.6	3	2	1	1	2	-	-	-	-	2	-	1	2	2	-
C205	3	2	1	1	2	-	-	-	-	2	-	1	2	2	1

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8391	CONTROL SYSTEMS	C206.1:Illustrate closed loop control systems for stability and study state performance.
		C206.2:Develop Pd, Pi and Pid controllers for giving control system model using matlab.
		C206.3:Compute stability of linear systems using the routh array test and use this to generate control design constraints.
		C206.4:Compute gain and phase margins from bode diagrams and Nyquist plots in terms of stability.
		C206.5:Illustrate the state space model of a physical system and discuss the concepts of sampled data control system.
		C206.6:Identify various transfer functions of digital control system using state variable models.

CO-PO MAPPING

COS	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	POI2	PSO I	PSO2	PSO3
C206.1	3	3	3	2	2	2	-	-	-	2	-	2	2	2	-
C206.2	3	3	3	2	2	2	-	-	-	2	-	2	2	2	1
C206.3	3	3	3	2	2	2	-	-	-	2	-	2	2	2	-
C206.4	3	3	3	2	2	2	-	-	-	2	-	2	2	2	-
C206.5	3	3	3	2	2	2	-	-	-	2	-	2	2	2	-
C206.6	3	3	3	2	2	2	-	-	-	2	-	2	2	2	1
C206	**3**	3	3	2	2	2	-	-	-	2	-	2	2	2	1

***3-High correlation; 2- Mediu**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8381	FUNDAMENTALS OF DATA STRUCTURES IN CLABORATORY	C207.1:Develop C programs for simple applications making use of basic construct
		C207.2:Illustrate the appropriate linear and nonlinear data structures in problem solving
		C207.3:Solve the problems using trees and Binary Search trees
		C207.4;Choose appropriate searching and sorting algorithm for an application and implement it in a modularized way
		C207.5:Capable to identity the appropriate data structure for given problem
		C207.6:Implement functions and recursive functions in using C Programming

CO-PO MAPPING

cos	POs												PSO		
	POI	PO 2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POil	PO12	PSO 1	PSO2	PSO3
C207.1	3	3	3	3	2	-	-	-	1	1	1	1	2	3	-
C207.2	3	3	3	3	2	-	-	-	1	1	1	1	2	3	2
C207.3	3	3	3	3	2	-	-	-	1	1	1	1	2	3	2
C207.4	3	3	3	3	2	-	-	-	1	1	1	1	2	3	2
C207.5	3	3	3	3	2	-	-	-	1	1	1	1	2	3	-
C207.6	3	3	3	3	2	-	-	-	1	1	1	1	2	3	-
C207	3	3	3	3	2	-	-		1	1	1	1	2	3	2

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8361	ANALOG AND DIGITAL CIRCUIT LABORATORY	**C208.1:** Design and Test rectifiers, filters and regulated power supplies
		C208.2: Design and Test BJT/JFET amplifiers
		C208.3: Differentiate cascade and cascade amplifiers
		C208.4: Analyze the limitation in bandwidth of single stage and multi stage amplifier and measure CMRR in differential amplifier
		C208.5: Simulate and analyze amplifier circuits using PSpice.
		C208.6: Design and Test the digital logic circuits

CO-PO MAPPING

COS	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	POI2	PSO I	PSO2	PSO3
C208.1	3	2	2	2	2	-	-	-	I	2	I	I	-	2	-
C208.2	3	2	2	2	2	-	-	-	I	2	I	1	2	2	-
C208.3	3	2	2	2	2	-	-	-	1	2	1	I	2	2	1
C208.4	3	2	2	2	2	-	-	-	1	2	1	1	2	2	1
C208.5	3	2	2	2	2	-	-	-	1	2	1	1	2	2	1
C208.6	2	2	2	2	2	-	-	-	1	2	1	1	2	2	-
C208	3	2	2	2	2	-	-	-	1	2	1	1	2	2	I

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
HS8381	INTERPERSONAL SKILLS/LISTENING &SPEAKING	**C209.1:** Listen and respond appropriately
		C209.2: Participate in group discussions.
		C209.3: Develop communication skills
		C209.4: Participate confidently and appropriately in conversations both formal and informal
		C209.5: Improve general and academic listening skills
		C209.6: Prepare effective presentations

CO-PO MAPPING

cos	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	POI2	PSO I	PSO2	PSO3
C209.1	-	-	-	-	-	-	-	2	2	2	-	-	-	-	1
C209.2	-	-	-	-	-	-	-	2	2	2	-	-	-	-	1
C209.3	-	-	-	-	-	-	-	2	2	2	-	-	-	-	1
C209.4	-	-	-	-	-	-	-	2	2	2	-	-	-	-	1
C209.5	-	-	-	-	-	-	-	2	2	2	-	-	-	-	1
C209.6	-	-	-	-	-	-	-	2	2	2	-	-	-	-	1
C209	-	-	-	-	-	-	-	2	2	2	-	-	-	-	1

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COURSE OUTCOMES - REGULATIONS 2017- IV SEMESTER

Course Code	Course Name	Course Outcome(CO) Students will be able to
MA8451	PROBABILITY AND RANDOM PROCESSES	C210.1:Explain the fundamental knowledge of theconcepts of probability and have knowledge of standard distributions which can describe real lifephenomenon.
		C210.2: Explain the basic concepts of one- and two dimensional random variables and apply in engineering applications.
		C210.3:Apply the concept random processes in engineering disciplines.
		C210.4:Explain and apply the concept of correlation and spectral densities.
		C210.5:Explain the various distribution functions and acquiring skills in handling situations involving more than one variable.
		C210.6: Analyze the response of random inputs to linear timeinvariant systems

CO-PO MAPPING

cos	POs												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C210.1	3	2	1	1	-	-	-	-	-	-	-	1	-	1	-
C210.2	3	2	1	1	-	-	-	-	-	-	-	1	-	1	-
C210.3	3	2	1	1	-	-	-	-	-	-	-	1	-	1	-
C210.4	2	2	1	1	-	-	-	-	-	-	-	1	-	1	-
C210.5	3	3	1	1	-	-	-	-	-	-	-	1	-	1	-
C210.6	2	2	1	1	-	-	-	-	-	-	-	1	-	1	-
C210	3	2	1	1	-	-	-	-	-	-	-	1	-	1	-

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8452	ELECTRONIC CIRCUITS II	**C211.1:** Analyze different types of feedback amplifier.
		C211.2: Design & Analyze of transistorized amplifier and oscillator circuits.
		C211.3: Analyze transistorized tuned amplifier.
		C211.4: Analyze of wave shaping circuits.
		C211.5: Design & Analyze of Multivibrators.
		C211.6: Design & Analyze the operation of power amplifier an DC convertors.

CO-PO MAPPING

cos	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	P07	PO8	PO9	POlO	POii	PO12	PSO I	PSO2	PSO3
C211.1	2	2	I	1	1	-	-	I	I	-	-	-	-	2	-
C211.2	2	2	I	1	I	-	-	I	I	-	-	-	-	2	-
c211:3	2	2	I	I	I	-	-	1	I	-	-	-	I	2	-
C211.4	2	2	I	I	I	-	-	I	1	-	-	-	I	2	-
C211.5	2	2	1	I	I	-	-	I	I	-	-	-	I	2	-
C211.6	2	2	I	I	I	-	-	I	I	-	-	-	I	2	-
C211	2	2	I	I	I	-	-	I	1	-	-	-	1	2	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8491	COMMUNICATON THEORY	**C212.1**:Describe the concepts of amplitude modulations system.
		C212.2:Summarize the concept of angle modulation system.
		C212.3:Solve communication engineering problems by applying the concepts of random process.
		C212.4:Compare the noise performance of AM and FM systems.
		C212.5:Analyze the principles of Sampling and quantization.
		C212.6:Design the PCM system.

CO-PO MAPPING

cos	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	POS	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C212.1	2	2	2	2	I	-	-	-	2	1	-	-	1	I	-
C212.2	2	2	2	2	I	-	-	-	2	I	-	-	I	I	-
C212.3	2	2	2	2	I	-	-	-	2	I	-	-	I	I	I
C212.4	2	2	2	2	I	-	-	-	2	I	-	-	I	I	-
C212.5	2	2	2	2	I	-	-	-	2	1	-	-	I	I	-
C212.6	2	2	2	2	I	-	-	-	2	1	-	-	I	I	-
C212	2	2	2	2	I	-	-	-	2	I	-	-	I	I	I

***3-High correlation; 2- Medium correlation; 1-Low correlation**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8451	ELECTROMAGNETIC FIELDS	**C213.1:** Explain the basic mathematical concepts related to electromagnetic fields & Electrostatic fields.
		C213.2: Interpret the concepts of electrical potential, energy densi y and their applications
		C213.3: Summarize the concepts of magneto statics, magnetic flux density, scalar and vector potential and its applications
		C213.4: Describe the concepts of Faradays law, Induced emf and Maxwell's equations to analyze the electrodynamics fields
		C213.5: Explain the basic concepts of electromagnetic waves, parameters and its propagation in lossy and in lossless medias.
		C213.6: Demonstrate the estimation of electric and magnetic field quantities.

CO-PO MAPPING

COS	POs												PSO		
	POI	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	POIO	POI I	PO12	PSO 1	PSO2	PSO3
C213.1	3	2	I	I	-	-	-	I	I	I	-	-	I	2	-
C213.2	3	2	I	I	-	-	-	I	I	I	-	-	I	2	-
C213.3	3	2	I	I	-	-	-	I	I	I	-	-	I	2	-
C213.4	3	2	I	I	-	-	-	I	I	I	-	-	I	2	I
C213.5	3	2	I	I	-	-	-	I	I	I	-	-	I	2	-
C213.6	3	2	I	I	-	-	-	I	I	I	-	-	I	2	-
C213	3	2	I	I	-	-	-	I	I	I	-	-	I	2	I

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8453	LINEAR INTEGRATED CIRCUITS	**C214.1:** Design linear applications of OP-AMPS
		C214.2: Design non linear applications of OP - AMPS
		C214.3: Design applications using analog multiplier and PLL
		C214.4: Design ADC and DAC using OP - AMPS
		C214.5: Generate waveforms using OP-AMP Circuits
		C214.6: To analyze special function ICs

CO-PO MAPPING

cos	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	POI2	PSO I	PSO2	PSO3
C214.1	3	2	2	2	2	-	-	-	2	2	-	I	I	2	-
C214.2	3	2	2	2	2	-	-	-	2	2	-	I	I	2	I
C214.3	3	2	2	2	2	-	-	-	2	2	-	I	I	2	-
C214.4	3	2	2	2	2	-	-	-	2	2	-	I	I	2	-
C214.5	3	2	2	2	2	-	-	-	2	2	-	I	I	2	I
C214.6	3	2	2	2	2	-	-	-	2	2	-	I	I	2	-
C214	3	2	2	2	2	-	-	-	2	2	-	I	I	2	I

***3-High correlation; 2- Medium correlation; 1-Low correlation**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE8291	ENVIRONMENTAL SCIENCE AND ENGINEERING	**C215.1:** Discover the public participation is animportant aspect which serves the environmental protection,
		C215.2: Describe the population explosion and family welfare programme and the value of education and human rights,
		C215.3:Recall public awareness of environmental is at infant stage,
		C215.4: List the ignorance and incomplete knowledge has lead to misconceptions.
		C215.5: Development and improvement in standard. of living has lead to serious environmental disasters.
		C215.6: Explain the various resources such as forest, mineral water and case studies of land and energy resources

CO-PO MAPPING

COS	POs												PSO		
	POI	P02	P03	P04	POS	P06	P07	P08	P09	POIO	POII	POI2	PSO 1	PS02	PS03
C215.1	3	2	I	I	-	2	2	I	I	-	-	I	2	I	1
C215.2	3	2	-	-	-	2	2	I	I	-	-	I	2	I	-
C215.3	3	2	-	-	-	2	2	I	I	-	-	I	2	I	-
C215.4	3	2	-	-	-	2	2	I	I	-	-	I	2	I	-
C215.5	3	2	I	I	-	2	2	I	I	-	-	I	2	I	I
C215.6	3	2	-	-	-	2	2	I	I	-	-	I	2	I	-
C215	3	2	I	I	-	2	2	I	I	-	-	I	2	I	I

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8461	CIRCUITS DESIGN AND SIMULATION LABORATORY	**C216.1:Define** the various types of feedback amplifier
		C216.2:Analyze the design of oscillators, tuned amplifiers, wave-shaping circuits and multivibrators.
		C216.3:Compare the design and simulate feedback amplifiers, oscillators, tuned amplifiers, wave-shaping circuits and multivibrators using SPICE Tool.
		C216.4:Interpret the basic procedure for all the semiconductor devices and circuits.
		C216.S:Design the RC phase shift and LC oscillators.
		C216.6:Design and implement of design of passive filters.

CO-PO MAPPING

cos	POs												PSO		
	POI	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C216.1	3	3	2	2	2	-	-	-	2	2	-	2	2	2	-
C216.2	3	3	2	2	2	-	-	-	2	2	-	2	2	2	-
C216.3	3	3	2	2	2	-	-	-	2	2	-	2	2	2	-
C216.4	3	3	2	2	2	-	-	-	2	2	-	2	2	2	-
C216.S	3	3	2	2	2	-	-	-	2	2	-	2	2	2	-
C216.6	3	3	2	2	2	-	-	-	2	2	-	2	2	2	-
C216	3	3	2	2	2	-	-	-	2	2	-	2	2	2	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8462	LINEAR INTEGRATED CIRCUITS LABORATORY	**C217.1:Design** amplifiers, oscillators, D-A convertersusing operational amplifiers.
		C217.2:Apply the concept of design filters using op-amp and performs an experiment on frequency response.
		C217.3:Analyze the working of PLL and describe its application as a frequency multiplier.
		C217.4:Design DC power supply using ICs.
		C217.5:Analyze the performance of filters, multivibrators, *AID* converter and analog multiplier using SPICE.
		C217.6:Acquire the basic knowledge of special function IC.

CO-PO MAPPING

cos	POs												PSO		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POil	POI2	PSO I	PSO2	PSO3
C217.1	3	3	2	I	I	-	-	I	I	I	-	I	I	I	I
C217.2	3	3	2	I	I	-	-	I	I	I	-	I	I	I	I
C217.3	3	3	2	I	I	-	-	I	I	I	-	I	I	I	I
C217.4	3	3	2	I	I	-	-	I	I	I	-	I	I	I	I
C217.5	3	3	2	I	I	-	-	I	I	I	-	I	I	I	I
C217.6	3	3	2	I	I	-	-	I	I	I	-	I	I	I	I
C217	3	3	2	I	I	-	-	I	I	I	-	I	I	I	I

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COURSE OUTCOMES - REGULATIONS 2017- V SEMESTER

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8501	DIGITAL COMMUNICATION	C301.1:Discuss the concept of PCM systems
		C301.2:Describe the various waveform coding schemes andtheir performance
		C301.3:Match and implement base band transmission schemes
		C301.4:Select and implement band pass signaling schemes
		C301.5:Demonstrate the spectral characteristics of band pass signaling schemes and their noise performance
		C301.6:Design error control coding schemes

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	POii	PO12	PSO 1	PSO2	PSO3
C301.1	3	3	2	1	1	-	-	-	-	1	-	1	1	2	-
C301.2	3	3	2	1	1	-	-	-	-	1	-	1	1	2	-
C301.3	3	3	2	1	1	-	-	-	-	1	-	1	-	2	-
C301.4	3	3	2	1	1	-	-	-	-	1	-	1	-	2	-
C301.5	3	3	2	1	1	-	-	-	-	1	-	1	1	2	-
C301.6	3	3	2	1	1	-	-	-	-	1	-	1	1	2	1
C301	3	3	2	1	1	-	-	-	-	1	-	1	1	2	1

***3-HighCorrelation;2-MediumCorrelation;1-LowCorrelation**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8553	DISCRETE-TIME SIGNAL PROCESSING	**C302.1:Apply** DFT for the analysis of digital signals and systems
		C302.2:Compare DFT and Fast Fourier Transform(FFT)
		C302.3:Design an analog and digital Infinite.Impulse Response (UR) filters for filtering undesired signals
		C302.4:Design of digital Finite Impulse Response (FIR) filters using the windowing technique and frequency sampling method for filtering undesired signals
		C302.5:Describe the finite word length effects on filters
		C302.6:Describe about fixed and floating point architecture principles

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	POii	PO12	PSO 1	PSO2	PSO3
C302.1	3	3	2	1	1	-	-	-	1	1	-	1	2	1	-
C302.2	3	3	2	1	1	-	-	-	1	1	-	1	2	1	-
C302.3	3	3	2	1	1	-	-	-	1	1	-	1	2	1	-
C302.4	3	3	2	1	1	-	-	-	1	1	-	1	2	1	-
C302.5	3	3	2	1	1	-	-	-	1	1	-	1	2	1	-
C302.6	3	3	2	1	1	-	-	-	1	1	-	1	2	1	-
C302	3	3	2	1	1	-	-	-	1	1	-	1	**2**	**1**	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8552	COMPUTER ARCHITECTURE AND ORGANIZATION	**C303.1:** Describe data representation, instruction formats and the operation of a digital computer
		C303.2: Illustrate the fixed point and floating-point arithmetic for ALU ooeration
		C303.3:Discuss about implementation schemes of control unitand pipeline performance
		C303.4:Explain the concept of various memories, interfacing and organization of multiple processors
		C303.5: Describe parallel processing unconventional architectures
		C303.6:Discuss about Multiprocessor network topologies

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	POii	PO12	PSO 1	PSO2	PSO3
C303.1	3	3	2	2	2	-	1	-	-	2	-	1	1	1	-
C303.2	3	3	2	2	2	-	1	-	-	2	-	1	1	1	-
C303.3	3	3	2	2	2	-	1	-	-	2	-	1	1	1	-
C303.4	3	3	2	2	2	-	1	-	-	2	-	1	1	1	-
C303.5	3	3	2	2	2	-	1	-	-	2	-	1	1	1	-
C303.6	3	3	2	2	2	-	1	-	-	2	-	1	1	1	-
C303	3	3	2	2	2	-	1	-	-	2	-	1	1	1	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8551	COMMUNICATION NETWORKS	**C304.1:Describe** the division of network functionalities into layers.
		C304.2:Identify the components required to build differenttypes of networks
		C304.3:Choose the required functionality at each layer for given application
		C304.4:Identify solution for each functionality at each layer
		C304.5:Trace the flow of information from one node to another node in the network
		C304.6:Summarize about routing and multicast routing

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C304.1	3	3	2	2	-	-	1	-	-	-	-	1	2	3	-
C304.2	3	3	2	2	-	-	1	-	-	-	-	1	2	3	1
C304.3	3	3	2	2	1	-	1	-	-	1	-	1	2	3	1
C304.4	3	3	2	2	1	-	1	-	-	1	-	1	2	3	1
C304.5	3	3	2	2	2	-	1	-	-	2	-	1	2	3	1
C304.6	3	3	2	2	2	-	1	-	-	2	-	1	2	3	-
C304	3	3	2	2	2	-	1	-	-	2	-	1	**2**	3	**1**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
OMDSSI	BASICS OF BIOMEDICAL INSTRUMENTATION	**C305.1:** Describe the different bio potential and its ropagation.
		C305.2:Compare the different types of electrodes and its placement for various recording
		C305.3:Design of bio amplifier for various physiological recording
		C305.4:Analyze different measurement techniques for non-physiological parameters
		C305.5: Explain the different biochemical measurements.
		C305.6: Describe the bio amplifiers and bio chemical instruments.

CO PO MAPPING

cos	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	POii	PO12	PSO 1	PSO2	PSO3
C305.1	3	3	2	2	1	-	-	-	-	1	-	-	3	-	-
C305.2	3	3	2	2	1	-	-	-	-	1	-	-	3	-	-
C305.3	3	3	2	2	1	-	-	-	-	1	-	-	3	-	-
C305.4	3	3	2	2	1	-	-	-	-	1	-	-	3	-	-
C305.5	3	3	2	2	1	-	-	-	-	1	-	-	3	-	-
C305.6	3	3	2	2	1	-	-	-	-	1	-	-	3	-	-
C305	3	3	2	2	1	-	-	-	-	1	-	-	3	-	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE8073	MEDICAL ELECTRONICS	**C306.1**:Discuss the physiological parameters andrecording methods of bioelectric signals
		C306.2:Explain the various biochemical Information
		C306.3:Explain the various physiological information
		C306.4:Illustrate the working of human assist devices usedin hospitals and to know about telemetry principles
		C306.5:Describe the recent trends in diagnosis & Therapy
		C306.6:Analyze the physiological and chemical information

CO PO MAPPING

cos	POs												PSOs		
	POI	P02	P03	P04	POS	P06	P07	P08	P09	POIO	POii	PO12	PSO I	PS02	PS03
C306.1	3	3	1	1	1	-	1	-	-	-	-	1	1	-	-
C306.2	3	3	1	1	1	-	1	-	-	-	-	1	1	-	-
C306.3	3	3	1	1	1	-	1	-	-	-	-	1	1	-	-
C306.4	3	3	1	1	1	-	1	-	-	-	-	1	1	-	-
C306.5	3	3	1	1	1	-	1	-	-	-	-	1	1	-	1
C306.6	3	3	1	1	1	-	1	-	-	-	-	1	1	-	1
C306	3	3	1	1	1	-	1	-	-	-	-	1	1	-	1

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8562	DIGITAL SIGNAL PROCESSING LABORATORY	C307.1:Carryout basic signal processing operations
		C307.2:Demonstrate their abilities towards MATLAB based implementation of various DSP systems
		C307.3:Explain the architecture of a DSP Processor
		C307.4:Illustrate and Implement the FIR and IIR Filters inDSP Processor for performing filtering operation over real-time signals
		C307.5:Summarize a DSP system for various applications of DSP
		C307.6:Demonstrate the architecture and addressing modes offMS 320C5416 processor and design IIR and FIR filters using TMS 320C5416 processor

CO PO MAPPING

cos	POs												PSOs		
	PO I	PO 2	PO 3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C307.1	3	3	3	2	2	-	-	-	2	2	-	2	1	1	1
C307.2	3	3	3	2	2	-	-	-	2	2	-	2	1	1	-
C307.3	3	3	3	2	2	-	-	-	2	2	-	2	1	1	-
C307.4	3	3	3	2	2	-	-	-	2	2	-	2	1	1	1
C307.5	3	3	3	2	2	-	-	-	2	2	-	2	1	1	1
C307.6	3	3	3	2	2	-	-	-	2	2	-	2	1	1	1
C307	**3**	**3**	**3**	**2**	**2**	-	-	-	**2**	**2**	-	**2**	1	1	**1**

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8561	COMMUNICATION SYSTEMS LABORATORY	**C308.1:** Simulate & validate the various functional modules of a communication system
		C308.2:Demonstrate their knowledge in base band signaling schemes through implementation of digital modulation schemes
		C308.3:Apply various channel coding schemes & demonstrate their capabilities towards the improvement of the noise performance of communication system
		C308.4: Simulate end-to-end communication Link
		C308.5:Compute the line coding and channel coding schemesto improve the noise performance of communication systems through simulations.
		C308.6:Design and simulate varioustypes of Digitalmodulation Using MATLAB

CO PO MAPPING

COS	POs												PSOs		
	PO1	P02	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C308.1	3	2	2	2	2	-	-	-	2	2	-	2	2	1	1
C308.2	3	2	2	2	2	-	-	-	2	2	-	2	2	1	-
C308.3	3	2	2	2	2	-	-	-	2	2	-	2	2	1	1
C308.4	3	2	2	2	2	-	-	-	2	2	-	2	2	1	1
C308.5	3	2	2	2	2	-	-	-	2	2	-	2	2	1	-
C308.6	3	2	2	2	2	-	-	-	2	2	-	2	2	1	1
C308	3	2	2	2	2	-	-	-	2	2	-	2	2	1	1

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8563	COMMUNICATION NETWORKS LABORATORY	C309.1:Establishing communicate between two desktopcomputers
		C309.2: Implement the different protocols
		C309.3:Implement the Program using sockets.
		C309.4:Implement and compare the various routing algorithms
		C309.5: Utilize the simulation tool.
		C309.6:Analyze various types of topologies and understandingthe differences between them.

CO PO MAPPING

COS	POs												PSOs		
	P O I	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C309.1		2	2	2	1	-	-	-	2	1	-	-	2	2	-
C309.2		2	2	2	1	-	-	-	2	1	-	-	2	2	1
C309.3	3	2	2	2	1	-	-	-	2	1	-	-	2	2	-
C309.4		2	2	2	1	-	-	-	2	1	-	-	2	2	1
C309.5		2	2	2	1	-	-	-	2	1	-	-	2	2	1
C309.6		2	2	2	1	-	-	-	2	1	-	-	2	2	1
C309	3	2	2	2	1		-	-	2	1	-	-	2	2	1

***3-HighCorrelation;2-MediumCorrelation;l-LowCorrelation**

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COURSE OUTCOMES -REGULATIONS 2017-VI SEMESTER

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8691	MICROPROCESSORS AND MICROCONTROLLERS	**C310.1**:Describe the architecture and different modes of operations of a typical microprocessor
		C310.2:Analyze and microprocessor execute programs based on 8086
		C310.3:Design Memory Interfacing circuits.
		C310.4:Design and interface I/O circuits.
		C310.5:Summarize and implement 8051 microcontroller based systems
		C310.6:Describe and compare the features of Microprocessor's and Microcontrollers.

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C310.1	3	2	2	1	1	-	-	-	1	1	-	1	3	2	1
C310.2	3	2	2	1	1	-	-	-	1	1	-	1	3	2	1
C310.3	3	2	2	1	1	-	-	-	1	1	-	1	3	2	1
C310.4	3	2	2	1	1	-	-	-	1	1	-	1	3	2	1
C310.5	3	2	2	1	1	-	-	-	1	1	-	1	3	2	1
C310.6	3	2	2	1	1	-	-	-	1	1	-	1	3	2	1
C310	3	2	2	1	1	-	-	-	1	1	-	1	3	2	1

***3-HighCorrelation;2-MediumCorrelation;1-LowCorrelation**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8095	VLSI Design	**C311.1:**Know the characteristic of CMOS circuits
		C311.2:Illustrate the concepts of digital building blocks usingMOS transistor.
		C311.3: Design combinational MOS circuits and power strategies.
		C311.4:Design and construct Sequential Circuits and Timing systems.
		C311.5: Design arithmetic building blocks and memory subsystems.
		C311.6: Apply and implement FPGA design flow and testing.

CO PO MAPPING

cos	POs												PSOs		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	POI2	PSO I	PSO2	PSO3
C311.1	3	3	2	1	I	-	-	-	I	I	-	I	I	2	1
C311.2	3	"	2	I	I	-	-	-	I	I	-	I	I	2	1
C311.3	3	3	2	I	I	-	-	-	I	I	-	I	I	2	1
C311.4	3	3	2	I	I	-	-	-	I	I	-	I	I	2	1
C311.5	3	3	2	I	I	-	-	-	I	I	-	I	I	2	1
C311.6	"	"	2	I	I	-	-	-	I	I	-	I	I	2	1
C311	3	3	2	I	I	-	-	-	I	I	-	I	I	2	1

***3-HighCorrelation;2-MediumCorrelation; 1-LowCorrelation**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8652	WIRELESS COMMUNICATION	C312.1:Characterize a wireless channel and evolve the system design specifications
		C312.2 :Discuss the cellular system availability and traffic based resource demands
		C312.3:Design suitable signaling and multipath mitigation techniques for the wireless channel and system under consideration.
		C312.4:Analyze the characteristics of various wireless channels
		C312.5:Explain the concepts behind various digital signaling schemes for fading chaimels
		C312.6:Compare and implement systems with transmit/receive diversity

CO PO MAPPING

COS	POs												PSOs		
	PO I	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C312.1	3	2	2	1	1	-	-	-	-	2	-	2	3	I	I
C312.2	3	2	2	1	1	-	-	-	-	2	-	2	3	I	2
C312.3	3	2	2	1	1	-	-	-	-	2	-	2	3	I	2
C312.4	3	2	2	1	1	-	-	-	-	2	-	2	2	I	I
C312.5	3	2	2	1	I	-	-	-	-	2	-	2	2	2	2
C312.6	3	2	2	1	1	-	-	-	-	2	-	2	2	2	2
C312	3	2	2	1	1	-	-	-	-	2	-	2	2	2	2

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
MG8591	PRINCIPLES OF MANAGEMENT	**C313.1:Explain** the management evolution
		C313.2:Recall the functions like planning, organizing,staffing, leading & controlling and have same basic knowledge on international aspect of management
		C313.3:Learn the various types of business organizations.
		C313.4:Explain the concept of different motivation theories.
		C313.5:Classify the various MNCs **in** the current global trends.
		C313.6:Explain the concept of strategic planning and tactical planning.

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C313.1	3	2	2	1	-	-	1	1	1	-	-	1	-	2	-
C313.2	3	2	2	1	-	-	1	1	1	-	-	1	-	2	-
C313.3	3	2	2	1	-	-	1	1	1	-	-	1	-	2	-
C313.4	3	2	2	1	-	-	1	1	1	-	-	1	-	2	-
C313.5	3	2	2	1	-	-	1	1	1	-	-	1	-	2	-
C313.6	3	2	2	1	-	-	1	1	1	-	-	1	-	2	-
C313	**3**	**2**	**2**	**1**	-	-	**1**	**1**	**1**	-	-	**1**	-	**2**	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8651	TRANSMISSION LINES AND RF SYSTEMS	C314.1:Explain the characteristics of transmission lines and its losses
		C314.2: Write about the standing wave ratio and impedance in high frequency transmission lines mput
		C314.3:Analyze about impedance matching by stubs using smith charts
		C314.4:Illustrate the characteristics of TE and TM waves
		C314.5: Design a RF transceiver system for wireless communication
		C314.6:Illustrate about the general wave behavior alonguniform guiding structures transverse electromagnetic Waves.

CO PO MAPPING

COS	POs												PSOs		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C314.1	3	2	I	I	I	-	-	-	-	I	-	I	I	2	-
C314.2	3	2	I	I	I	-	-	-	-	I	-	I	I	2	-
C314.3	3	2	I	I	I	-	-	-	-	I	-	I	I	2	-
C314.4	3	2	I	I	I	-	-	-	-	I	-	I	I	2	-
C314.5	3	2	I	I	I	-	-	-	-	I	-	I	I	3	I
C314.6	3	2	I	I	I	-	-	-	-	I	-	I	I	2	-
C314	3	2	I	I	I	-	-	-	-	I	-	I	I	2	I

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8004	WIRELESS NETWORK	**C315.1:Discuss** with the latest 3G/4G networks and its architecture
		C315.2:Explain and implement wireless network environment for any application using latest wireless protocols andstandards
		C315.3:Discuss aboutsuitable network depending on theavailability and requirement
		C315.4:Explain the different type of applications for smartphones and mobile devices with latest network strategies
		C315.5:Design and demonstrate wireless networks for various applications.
		C315.6:Compare the advantages of various networks

CO PO MAPPING

cos	POs												PSOs		
	POI	P02	P03	P04	POS	P06	P07	P08	P09	POIO	POii	P012	PSO I	PS02	PS03
C315.1	3	2	I	I	-	-	-	-	-	I	-	I	I	2	-
C315.2	3	2	I	I	-	-	-	-	-	I	-	I	I	2	-
C315.3	3	2	I	I	-	-	-	-	-	I	-	I	-	I	-
C315.4	3	2	I	I	-	-	-	-	-	I	-	I	I	2	-
C315.5	3	2	I	I	-	-	-	-	-	I	-	I	I	3	I
C315.6	3	2	I	I	-	-	-	-	-	I	-	I	I	2	-
C315	3	2	I	I		-	-	-	-	I	-	I	I	2	I

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8681	MICROPROCESSORS AND MICROCONTROLLERS LABORATORY	**C316.1:Write** ALP Programmes for fixed and Floating Point and Arithmetic operations
		C316.2:Interface different I/Os with processor
		C316.3:Simulate and Generate waveforms using Microprocessors using MASM
		C316.4:Execute Programs in 8051
		C316.5:Explain the difference between simulator and Emulator
		C316.6:Analyze the programming with control instructions in 8085

CO PO MAPPING

COS	POs												PSOs		
	PO I	P02	P03	P04	POS	P06	P07	P08	P09	POIO	POii	P012	PSO I	PS02	PS03
C316.1	3	2	2	-	2	-	-	-	2	2	-	2	2	2	-
C316.2	3	2	2	2	2	-	-	-	2	2	-	2	2	2	1
C316.3	3	2	2	2	2	-	-	-	2	2	-	2	2	2	1
C316.4	3	2	2	2	2	-	-	-	2	2	-	2	2	2	1
C316.5	3	2	2	2	2	-	-	-	2	2	-	2	2	2	-
C316.6	3	2	2	2	2	-	-	-	2	2	-	2	2	2	1
C316	3	2	2	2	2	-	-	-	2	2	-	2	2	2	1

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8661	VLSI DESIGN LABORATORY	**C317.1:** Write HDL code for basic as well as advanced digital integrated circuit
		C317.2:Apply the logic modules into FPGA Boards
		C317.3:Synthesize Place and Route the digital IPs
		C317.4:Design combinational and sequential circuits usingVHDL.
		C317.5:Design, Simulate and Extract the layouts of Digital IC Blocks using EDA tools
		C317.6:Design, Simulate and Extract the layouts of Analog IC Blocks using EDA tools

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
C317.1	3	2	2	1	1	1	-	-	1	1	-	-	2	2	1
C317.2	3	2	2	1	1	1	-	-	1	1	-	-	2	2	1
C317.3	3	2	2	1	1	1	-	-	1	1	-	-	3	3	3
C317.4	3	2	2	1	1	1	-	-	1	1	-	-	2	2	1
C317.5	3	2	2	1	1	1	-	-	1	1	-	-	2	2	1
C317.6	3	2	2	1	1	1	-	-	1	1	-	-	2	2	1
C317	3	2	2	1	1	1	-	-	1	1	-	-	2	2	1

***3-HighCorrelation;2-MediumCorrelation;l-LowCorrelation**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8611	TECHNICAL SEMINAR	**C318.1:** Enrich the communication skills of the student teclmical topics of interest
		C318.2: Identify promising new directions of cutting edges technologies
		C318.3: Analyze the various methodologies and technologies and discuss with the team for solving the problem.
		C318.4: Discuss and impart skills in preparing detailed report describing the project and results.
		C318.5; Discuss about effectively communicate by making an oral presentation before an evaluation committee
		C318.6: Discuss the technical quiz and Group Discussions programs

CO PO MAPPING

COS	POs												PSOs		
	POI	P02	P03	P04	POS	P06	P07	P08	P09	POIO	POii	PO12	PSO I	PS02	PS03
C318.1	3	2	1	1	1	-	-	-	1	1	-	1	1	1	-
C318.2	3	2	1	1	1	-	-	-	1	1	-	1	1	1	1
C318.3	3	2	1	1	1	-	-	-	1	1	-	1	1	1	1
C318.4	3	2	1	1	1	-	-	-	1	1	-	1	1	1	1
C318.5	3	2	1	1	1	-	-	-	1	1	-	1	1	1	1
C318.6	3	2	1	1	1	-	-	-	1	1	-	1	1	1	1
C318	3	2	1	1	1	-	-	-	1	1	-	1	1	1	1

***3-HighCorrelation;2-MediumCorrelation;l-LowCorrelation**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
HS8581	PROFESSIONAL COMMUNICATION	**C319.1:** Explain about the corporate etiquette -organizing and managing professional events and will comprehend how reading will enhances their communicative competency
		C319.2: Discuss about the making of effective communication and presentations.
		C319.3: Describe adequate soft skills required for the workplace
		C319.4: Build good relation with Business correspondence
		C319.5; Develop all around personalities with a mature outlook to function effectively in different circumstances
		C319.6: Construct their confidence and help the attend interviews successfully.

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	POii	PO12	PSO 1	PSO2	PSO3
C319.1	-	-	-	-	-	-	-	-	3	3	3	-	-	-	1
C319.2	-	-	-	-	-	-	-	-	3	3	3	-	-	-	1
C319.3	-	-	-	-	-	-	-	-	3	3	3	-	-	-	1
C319.4	-	-	-	-	-	-	-	-	3	3	3	-	-	-	1
C319.5	-	-	-	-	-	-	-	-	3	3	3	-	-	-	1
C318.6	-	-	-	-	-	-	-	-	3	3	3	-	-	-	1
C319	-	-	-	-	-	-	-	-	/3	3	3	-	-	-	1

*3-HighCorrelation;2-MediumCorrelation;l-LowCorrelation

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COURSE OUTCOMES-REGULATIONS 2017-VII SEMESTER

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8701	ANTENN AND MICROWAVE ENGINEERING	**C401.1:Apply** the basic principles antenna parameters and link power budgets
		C401.2:Demonstrate and assess the performance of various antennas
		C401.3:Analyze the importance of the antenna array, uniform andnon-uniform amplitude excitation and smart antenna.
		C401.4:Describe the concept of microwave semiconductor devicesand tubes.
		C701.5:Illustrate a microwave system given the application specifications.
		C401.6:Design of microwave filter and microwave amplifier

CO PO MAPPING

cos	POs												PSOs		
	PO I	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C401.1	3	3	2	1	2	-	I	-	-	2	-	2	I	2	-
C401.2	3	3	2	1	2	-	I	-	-	2	-	2	I	2	-
C401.3	3	3	2	1	2	-	I	-	-	2	-	2	I	2	-
C401.4	3	3	2	1	2	-	I	-	-	2	-	2	I	2	-
C401.5	3	3	2	1	2	-	I	-	-	2	-	2	I	2	I
C401.6	3	3	2	1	3	-	I	-	-	3	-	3	I	3	I
C401	3	3	2	I	2	-	I	-	-	2	-	2	I	2	I

***3-HighCorrelation;2-MediumCorrelation;l-LowCorrelation**

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COURSE OUTCOMES -REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8751	OPTICAL COMMUNICATION	C402.1:Realize the basic elements in optical fibers, different modes and configurations
		C402.2:Analyze the transmission characteristics associated with dispersion and polarization techniques
		C402.3:Explain optical sources and detectors with their use in optical communication system
		C402.4:Construct fiber optic receiver systems. Measurement and coupling techniques
		C402.5:Demonstrate optical communication systems and its networks
		C402.6:Descrtibe various optical components and measuring instruments.

CO PO MAPPING

cos	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	POii	PO12	PSO 1	PSO2	PSO3
C402.1	3	3	2	1	-	1	-	-	-	2	-	2	1	2	-
C402.2	3	3	2	1	-	1	-	-	-	2	-	2	1	2	-
C402.3	3	3	2	1	-	1	-	-	-	2	-	2	1	2	-
C402.4	3	3	2	1	-	1	-	-	-	2	-	2	2	2	1
C402.5	3	3	2	1	-	1	-	-	-	2	-	2	1	2	-
C402.6	3	3	2	1	-	1	-	-	-	2	-	2	1	2	-
C402	3	3	2	1	-	1	-	-	-	2	-	2	1	2	1

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8791	EMBEDDED AND REAL TIME SYSTEMS	**C403.1**:Describe the architecture and programming of ARM processor
		C403.2:Explain the concepts of embedded systems
		C403.3:Explain the basic concepts of real time operating system design
		C403.4:Apply the Model real-time applications using embedded-system concepts
		C403.5:Compare the MPSOCs and Shared memory multiprocessors.
		C403.6:Illustrate the multiple task and multirate systems. Justify the inter process communication.

CO PO MAPPING

COS	POs												PSOs		
	PO I	PO 2	P03	P04	POS	P06	P07	P08	P09	POIO	POii	Pol2	PSO I	PS02	PS03
C403.1	3	3	2	1	1	-	-	-	1	1	-	1	1	2	-
C403.2	3	3	2	1	1	-	-	-	1	1	-	1	1	2	-
C403.3	3	3	2	1	1	-	-	-	1	1	-	1	1	2	-
C403.4	3	3	2	1	1	-	-	-	1	1	-	1	1	3	1
C403.5	3	3	2	1	1	-	-	-	1	1	-	1	1	2	-
C403.6	3	3	2	1	1	-	-	-	1	1	-	1	1	2	-
C403	3	3	2	1	1	-	-	-	1	1	-	1	1	2	1

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8702	ADHOCAND WIRELESS SENSOR NETWORKS	**C404.1:**Explain the basics of Adhoc networks and wireless sensor networks
		C404.2:Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement
		C404.3:Apply the knowledge to i entify appropriate physical and MAC layer protocols
		C404.4:Describe the transport layer and security issues possible in Ad hoc and sensor networks
		C404.5:Illustrate the basic modules and OS used in wireless sensor networks
		C404.6:Analyse the programming challenges

CO PO MAPPING

cos	POs												PSOs		
	POI	P02	POJ	P04	POS	P06	P07	P08	P09	POIO	POii	P012	PSO I	PS02	PS03
C404.1	3	3	2	1	1	-	-	-	-	-	-	-	1	2	-
C404.2	3	'_';	2	1	1	-	-	-	-	-	-	-	1	2	I
C404.3	3	'_';	2	1	1	-	-	-	-	-	-	-	1	2	I
C404.4	3	3	2	1	1	-	-	-	-	-	-	-	1	2	-
C404.5	'_';	'_';	2	1	1	-	-	-	-	-	-	-	1	2	-
C404.6	'_';	'_';	2	1	1	-	-	-	-	-	-	-	1	2	-
C404	3	3	2	1	1	-	-	-	-	-	-	-	1	2	I

***3-HighCorrelation;2-MediumCorrelation;l-LowCorrelation**

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) • Students will be able to
GE8071	DISASTER MANAGEMENT	**C405.1:** Explain and exposure to disasters, their significance and types.
		C405.2:Eensure that students begin to understand the relationship between vulnerability, disasters, disaster prevention and risk reduction
		C405.3:Explain the preliminary understanding of approaches of Disaster Risk Reduction (DRR)
		C405.4:Enhance awareness of institutional processes m the country
		C405.5: Develop rudimentary ability to respond to their surroundings with potential disaster response m areas where they live, with due sensitivity
		C405.6: Descnbe the Roles and Ke ons Ib lltles ot Panchayat ,Urban and Legal bodies in Disaster anagement

CO PO MAPPING

cos	POs												PSOs		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C405.1	3	2	1	1	-	2	2	1	1	-	-	-	1	1	-
C405.2	'_',	2	1	1	-	2	2	1	1	-	-	-	1	1	-
C405.3	3	2	1	1	-	2	2	1	1	-	-	-	1	1	-
C405.4	3	2	1	1	-	2	2	1	1	-	-	-	1	1	-
C405.5	3	2	1	1	-	2	2	1	1	-	-	-	1	I	-
C405.6	'_',	2	I	I	-	2	2	1	1	-	-	-	1	1	-
C405	3	2	1	1	-	2	2	1	1	-	-	-	1	1	-

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
OCS752	INTRODUCTION TOC PROGRAMMING	C406.1:Develop simple application using basicconstructs
		C406.2:Design and Implement applications using arrays
		C406.3:Develop application using functions and structures.
		C406.4:Design and Implement applications using strings
		C406.5:Decompose a C program into functions and pointers
		C406.6:Represent and write program using structure and union

CO PO MAPPING

cos	POs												PSOs		
	PO I	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C406.1		2	1	1	-	-	-	-	1	1	-	1	1	2	-
C406.2		2	1	1	-	-	-	-	1	1	-	1	I	2	-
C406.3		2	1	1	-	-	-	-	1	1	-	1	I	2	-
C406.4	3	2	1	1	-	-	-	-	1	1	-	1	I	2	I
C406.5		2	1	1	-	-	-	-	1	1	-	1	I	2	-
C406.6		2	1	1	-	-	-	-	1	1	-	1	I	2	-
C406		2	1	1	-	-	-		1	1	-	1	I	2	I

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COURSE OUTCOMES - REGULATIO NS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8711	EMBEDDED LABORATORY	C407.1:Build a programs in ARM for a specific application
		C407.2:Interface memory, *AID* and *DIA* convertors with ARM system
		C407.3:Analyze the performance of interrupt
		C407.4:Construct a program for interfacing keyboard, display, motor and sensor
		C407.5:Develop a mini project using embedded system
		C407.6:Develop a new interfacing program for different applications

CO PO MAPPING

COS	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	POii	PO12	PSO I	PSO2	PSO3
C407.1	3	2	2	2	2	-	-	-	2	2	-	2	2	3	I
C407.2	3	2	2	2	2	-	-	-	2	2	-	2	2	3	I
C407.3	3	3	3	3	3	-	-	-	3	3	-	3	3	3	I
C407.4	3	2	2	2	2	-	-	-	2	2	-	2	2	3	I
C407.5	3	2	2	2	2	-	-	-	2	2	-	2	2	3	I
C407.6	3	2	2	2	2	-	-	-	2	2	-	2	2	3	I
C407	3	2	2	2	2	-	-	-	2	2	-	2	2	3	I

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8761	ADVANCED COMMUNICATION LABORATORY	C408.1:Explain the performance of simple optical link by measurement of losses
		C408.2:Analyzing the mode characteristics of fiber
		C408.3:Construct the Eye Pattern, Pulse broadening of optical fiber and the impact on BER
		C408.4:Estimate the Wireless Channel Characteristics of Wireless Communication System
		C408.5:Analyze the performance of Wireless Communication System
		C408.6:. Illustrate the intricacies in Microwave System design

CO PO MAPPING

cos	POs												PSOs		
	POI	P02	P03	P04	POS	P06	P07	P08	P09	POIO	POII	P012	PSO 1	PS02	PS03
C4081	2	2	1	-	1	-	-	-	1	1	-	1	2	2	1
C408.2	2	2	1	1	1	-	-	-	1	1	-	1	3	-2	1
C408.3	2	2	1	1	1	-	-	-	1	1	-	1	2	2	1
C408.4	2	2	1	1	1	-	-	-	1	1	-	1	2	2	1
C408.5	2	2	1	-	1	-	-	-	1	1	-	1	2	2	1
C408.6	2	2	1	-	1	-	-	-	1	1	-	1	2	2	1
C408	2	2	1	1	1	-	-	-	1			1	2	2	1

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to	
EC8076	PROFESSIONAL ETHICS IN ENGINEERING	C409.1	Describe the moral, values and ethics and self-confidence of human values
		C409.2	Apply engineering ethics in society
		C409.3	Explain about engineers as responsible experimenters
		C409.4	Interpreted the ethical issues and the responsibilities and rights in the society
		C409.5	explain the basic Environmental ethics and computer ethics Ethics and Human Values.
		C409.6	Explain awareness on safety and risk and Global Issues.

CO PO MAPPING

COS	POs												PSOs		
	PO I	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	POIO	POii	PO12	PSO I	PSO2	PSO3
C409.1	3	2	2	2	-	-	-	2	-	2	1	1	-	-	-
C409.2	3	2	2	2	-	-	-	2	-	2	1	1	-	-	-
C409.3	3	2	2	2	-	-	-	2	-	2	1	1	-	-	-
C409.4	3	2	2	2	-	-	-	2	-	2	1	1	-	-	-
C409.5	3	2	2	2	-	-	-	2	-	2	1	1	-	-	-
C409.6	3	2	2	2	-	-	-	2	-	2	1	1	-	-	-
C409	3	2	2	2	-	-	-	2	-	2	1	1	-	-	-

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COURSE OUTCOMES-REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to	
EC8094	SATELLITE COMMUNICATION	C410.1	Analyze the different types of satellites
		C410.2	Find the orbital determination and launching methods.
		C410.3	Analyze the earth segment and space segment
		C410.4	Analyze the satellite Link design
		C410.5	Learn the Comparison of Multiple access methods
		C410.6	Design various satellite applications

CO PO MAPPING

cos	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C410.1	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.2	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.3	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.4	3	3	2	2	1	1	-	-	-	2	-	2	3	3	-
C410.5	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.6	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-

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COURSE OUTCOMES - REGULATIONS 2017

Course Code	Course Name	Course Outcome(CO) Students will be able to
EC8811	PROJECT WORK	C411.1:Develop the ability to solve a specific problem right from its identification.
		C411.2:Review on literatures and learn more about the problem and its solutions.
		C411.3:Develop the analytical skills, recruitment analysis, design skills.
		C411.4: Learn the various system modules for implementing the project useful for the society and testing with experimental data.
		C411.5:Train the students in preparing projects reports and to face reviews and viva voce examination.
		C411.6:Choose academic learning with experimental learning in a profession

CO PO MAPPING

cos	POs												PSOs		
	POI	PO2	PO3	PO4	POS	PO6	PO7	PO8	PO9	POIO	POU	PO12	PSOI	PSO2	PSO3
C411.1	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3
C411.2	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3
C411.3	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3
C411.4	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3
C411.5	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3
C411.6	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3
C411	**3**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**3**	**3**	**3**

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