



CURRICULUM AND SYLLABUS

REGULATION 2018

Programme: B.E. – Electronics and Communication Engineering

Structure of Curriculum

Sl.No.	Category	Credits
1	Humanities and Social Sciences including Management courses (H)	12
2	Basic Science courses (B)	26
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.(S)	22
4	Professional core courses (C)	50
5	Professional Elective courses relevant to chosen specialization/branch (E)	27/30*
6	Open Electives –Electives from other technical and /or emerging subjects (O)	09/06*
7	Project work, Minor project, seminar and internship in industry or elsewhere (P)	14
8	Mandatory Courses (M) [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Traditional Knowledge]	04
Total Credits		164

*** Minor variation is allowed as per the need**

1. Humanities and Social Sciences including Management courses (H)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18LEH101J	Technical English	2	0	2	3
18LEH102J	Professional English	2	0	2	3
18MBH101L	Professional Skills and Practices	0	0	2	1
18MBH102L	General Aptitude	0	0	2	1
18MBH201T	Management Principles for Engineers	2	0	0	2
18MBH202T	Social Engineering	2	0	0	2
Total Credits					12

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ project



2. Basic Science courses (B)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18PYB101J	Physics	3	1	2	5
18CYB101J	Chemistry	3	1	2	5
18MAB101T	Calculus and Linear Algebra	3	1	0	4
18MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4
18MAB202T	Partial Differential Equations and linear Algebra	3	1	0	4
18MAB205T	Probability Theory and Random Processes	3	1	0	4
Total Credits					26

T-Lecture T-Lecture+Tutorial L-Practical, Project J- Lecture+ project

3. Engineering Science courses including workshop, drawing, basics of Electrical/ Mechanical / Computer etc (S)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18MES101J	Engineering Graphics	1	0	4	3
18EES101J(R)	Basic Electrical and Electronics Engineering	3	0	2	4
18MES102J	Basic Civil and Mechanical Engineering	3	0	2	4
18CSS101J(R)	Programming for Problem Solving	2	0	2	3
18ITS201J	Data Structures and object oriented programming	3	0	2	4
18ECS201J	Digital Electronics	3	0	2	4
Total Credits					22

T-Lecture T-Lecture+Tutorial L-Practical, Project J- Lecture+ Project



4. Professional Core courses (C)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18ECC201T	Electromagnetic Fields	3	0	0	3
18ECC202J	Analog Electronics	3	0	2	4
18ECC203T	Measurements and Instrumentation	3	0	0	3
18ECC204T	Network Analysis and Synthesis	3	0	0	3
18ECC205J	Analog Integrated Circuits	3	0	2	4
18ECC206T	Transmission Lines and Waveguides	3	1	0	4
18ECC207T	Signals and Systems	3	1	0	4
18ECC208J	Microprocessor and Microcontroller	3	0	2	4
18ECC301J	Digital signal Processing	3	0	2	4
18ECC302T	Antennas and wave propagation	3	0	0	3
18ECC303T	Analog Communication	3	0	0	3
18ECC304J	Digital communication	3	0	2	4
18ECC305J	Microwave Engineering	3	0	2	4
18ECC401T	Wireless Communication	3	0	0	3
Total Credits					50

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ Project



5. Professional Elective courses relevant to chosen specialization/branch (E)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18ECE001J	VLSI Design	3	0	2	4
18ECE002J	Embedded System Design	3	0	2	4
18ECE003T	Real Time Operating Systems	3	0	0	3
18ECE004T	Advanced Microprocessors and Microcontrollers	3	0	0	3
18ECE005J	Computer Networks	3	0	2	4
18ECE006T	Automotive Embedded Systems	3	0	0	3
18ECE007T	Testing of VLSI Design	3	0	0	3
18ECE008T	ASIC Design	3	0	0	3
18ECE009J	Internet of Things	3	0	2	4
18ECE010T	Machine Learning	3	0	0	3
18ECE011T	Digital Image Processing	3	0	0	3
18ECE012T	Cognitive Radio	3	0	0	3
18ECE013T	Wireless Embedded Systems	3	0	0	3
18ECE014T	High Speed Networks	3	0	0	3
18ECE015T	Biomedical Instrumentation	3	0	0	3
18ECE016T	Sensors & Actuators	3	0	0	3
18ECE017T	Control Systems	3	0	0	3
18ECE018T	Medical Image Processing	3	0	0	3
18ECE019T	PCB Design Engineering	3	0	0	3
18ECE020T	Industrial Automation	3	0	0	3
18ECE021J	Fiber Optic Communication	3	0	2	4
18ECE022T	Robotics & Automation	3	0	0	3
18ECE023T	Wireless Networks	3	0	0	3
18ECE024T	Optical Networks	3	0	0	3



18ECE025T	Cryptography and Network Security	3	0	0	3
18ECE026T	High Performance Communication Networks	3	0	0	3
18ECE027T	LORA WAN	3	0	0	3
18ECE028T	Adhoc and Sensor Networks	3	0	0	3
18ECE029T	Satellite Communication	3	0	0	3
18ECE030T	Radar and Navigational Aids	3	0	0	3
18ECE031T	Space Time Wireless Communication	3	0	0	3
18ECE032T	Pattern Recognition	3	0	0	3
18ECE033T	Multimedia Compression Techniques	3	0	0	3
18ECE034T	Nanotechnology	3	0	0	3
18ECE035T	MEMS	3	0	0	3
18ECE036J	Database Management Systems	2	0	2	3
18ECE037L	Professional Readiness for Innovation, Employability and Entrepreneurship	0	0	6	3
Total Credits					27

T-Lecture

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J- Lecture+ project



6. Open electives offered to other departments by the Electronics and Communication Engineering department (O)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18ECO001T	Microcontrollers and Embedded systems	3	0	0	3
18ECO002T	Internet of Everything	3	0	0	3
18ECO003T	Wireless Mobile Communication	3	0	0	3
18ECO004T	Medical Engineering	3	0	0	3
18ECO005T	Signal and Image Processing	3	0	0	3
Total Credits					15

T-Lecture

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L-Practical, Project

J- Lecture+ project

Open Electives Offered by Civil Engineering Department

Course Code	Course Name	Hours / Week			C
		L	T	P	
18CEO001T	Building Services	3	0	0	3
18CEO002T	Disaster Preparedness, Planning and Management	3	0	0	3
18CEO003T	Environmental Impact Assessment	3	0	0	3
18CEO004T	Remote Sensing and GIS	3	0	0	3
18CEO005T	Metro System and Engineering	3	0	0	3
Total Credits					15

T-Lecture

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L-Practical, Project

J- Lecture+ project

Open Elective Offered by CSE Department

Course Code	Course Name	Hours / Week			C
		L	T	P	
18CSO001T	Basics of Data Structures and Algorithms	3	0	0	3
18CSO002J	Fundamentals of Python Programming	2	0	2	3
18CSO003J	Fundamentals of Java Programming	2	0	2	3
18CSO004J	Mobile Application Development	2	0	2	3
18CSO005T	Software Development using Agile	3	0	0	3
Total Credits					15

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ project



Open Elective Offered by EEE Department

Course Code	Course Name	Hours / Week			C
		L	T	P	
18EEO001T	Basics of Internet of Things	3	0	0	3
18EEO002T	Fundamentals of Smart Grid	3	0	0	3
18EEO003T	Robotics	3	0	0	3
18EEO004T	Energy Storing Devices	3	0	0	3
18EEO005T	Fundamentals of Electric Vehicles	3	0	0	3
Total Credits					15

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ project

Open Elective Offered by EIE Department

Course Code	Course Name	Hours / Week			C
		L	T	P	
18EIO001T	Basics of Automation	3	0	0	3
18EIO002T	Automotive Electronics	3	0	0	3
18EIO003T	Programmable Logic Controllers	3	0	0	3
18EIO004T	Introduction to MEMS	3	0	0	3
18EIO005T	Smart Sensor Technology	3	0	0	3
Total Credits					15

T-Lecture

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Open Elective Offered by IT Department

Course Code	Course Name	Hours / Week			C
		L	T	P	
18ITO001J	Problem Solving Techniques Using Python	1	0	4	3
18ITO002J	Java Programming	1	0	4	3
18ITO003J	Game Design and Development	1	0	4	3
18ITO004J	Web Design	2	0	2	3
18ITO005J	Data Structures	2	0	2	3
Total Credits					15

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ project



Open Elective Offered by Mechanical Department

Course Code	Course Name	Hours / Week			C
		L	T	P	
18MEO001T	Industrial Safety for Engineers	3	0	0	3
18MEO002T	Energy Engineering	3	0	0	3
18MEO003T	Automobile Technology	3	0	0	3
18MEO004T	Advances in Nanotechnology	3	0	0	3
18MEO005T	Product Design and Development	3	0	0	3
18MEO006T	3D printing Technology	3	0	0	3
Total Credits					15

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ project

Open Elective Offered by MBA Department

Course Code	Course Name	Hours / Week			C
		L	T	P	
18BMBO001T	Business Ethics and Corporate Social Responsibility	3	0	0	3
18BMBO002T	Human Capital Management	3	0	0	3
18BMBO003T	Digital and Social Media Marketing	3	0	0	3
18BMBO004T	Banking Principles and Practices	3	0	0	3
18BMBO005T	Export Management and Documentation	3	0	0	3
Total Credits					15

T-Lecture

T-Lecture+Tutorial

L-Practical, Project,

J-Lecture+Project

7. Project work, minor project, seminar and internship in industry or elsewhere (P)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18ECP101N	MOOC I / Industrial Training I	0	0	2*	1
18ECP102N	MOOC II / Industrial Training II	0	0	2*	1
18ECP103L	Minor Project I	0	0	2	1
18ECP104L	Minor Project II	0	0	2	1
18ECP105L	Minor Project III	0	0	2	1
18ECP106L	Minor Project IV	0	0	2	1
18ECP107L	Project work / Semester Internship	0	0	16	8
Total Credits					14

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ project

*can be conducted as non conducted hours



8. Mandatory Courses (M)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18LEM101T	Constitution of India	1	0	0	Nil
18LEM102T	Value Education	1	0	0	Nil
18GNM101L	Physical and Mental Health using Yoga	0	0	2	Nil
18GNM102L	NSS	0	0	2	Nil
18MBM201L	Competencies in Social Skills	0	0	2	1
18MBM202L	Critical and Creative Thinking Skills	0	0	2	1
18CYM201T	Environmental Science	1	0	0	Nil
18LEM103T	Indian Tradition and Heritage	1	0	0	Nil
18MBM301L	Analytical and Logical Thinking Skills	0	0	2	1
18MBM302L	Employability Skills and Practices	0	0	2	1
18LEM301T	Indian Art Forms	1	0	0	Nil
18LEM302T	Self Development and Entrepreneurship	1	0	0	Nil
Total Credits					04

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ project

9. One Credit Courses (X)

Course Code	Course Name	Hours / Week			C
		L	T	P	
18ECX001T	Modern Electronic Instrumentation	1	0	0	1
18ECX002T	Next Generation Wireless Systems and Networks	1	0	0	1
18ECX003T	Android App Development	1	0	0	1
18CSX005T	Data Center & Cloud Basics	1	0	0	1
18ECX004T	CCNAv7 - Introduction to Networks	1	0	0	1



18ECX005T	Artificial Intelligence in Software Testing	1	0	0	1
18ECX006T	Digital System Design using Verilog	1	0	0	1
18ECX007T	VLSI Design and Verification using System Verilog	1	0	0	1
18ECX008T	Embedded system for Internet of Things	1	0	0	1
18ECX009T	IoT Enabling Technologies and Web of Things	1	0	0	1
18ECX010T	PCB Design for Everyone	1	0	0	1
18CSX011L	Google Cloud Computing Foundations	1	0	0	1
Total Credits					03

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J- Lecture+ Project



SEMESTER I						
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
H	18LEH101J	Technical English	2	0	2	3
B	18MAB101T	Calculus and Linear Algebra	3	1	0	4
B	18PYB101J / 18CYB101J	Physics / Chemistry	3	1	2	5
S	18MES101J / 18CSS101J / 18CSS101J (R)	Engineering Graphics / Programming for Problem Solving	1	0	4	3
			2	0	2	
S	18MES102J / 18EES101J / 18EES101J(R)	Basic Civil and Mechanical Engineering / Basic Electrical and Electronics Engineering	3	0	2	4
H	18MBH101L	Professional Skills and Practices	0	0	2	1
M	18LEM101T	Constitution of India	1	0	0	Nil
M	18GNM101L / 18GNM102L	Physical and Mental Health Using Yoga / NSS	0	0	2	Nil
Total Credits						20

SEMESTER II						
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
H	18LEH102J	Professional English	2	0	2	3
B	18MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4
B	18PYB101J / 18CYB101J	Physics / Chemistry	3	1	2	5
S	18MES101J / 18CSS101J / 18CSS101J (R)	Engineering Graphics / Programming for Problem Solving	1	0	4	3
			2	0	2	
S	18MES102J / 18EES101J / 18EES101J(R)	Basic Civil and Mechanical Engineering / Basic Electrical and Electronics Engineering	3	0	2	4
H	18MBH102L	General Aptitude	0	0	2	1
M	18LEM102T	Value Education	1	0	0	Nil
M	18GNM101L / 18GNM102L	Physical and Mental Health Using Yoga / NSS	0	0	2	Nil
Total Credits						20



SEMESTER III						
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
B	18MAB202T	Partial Differential Equations and Linear Algebra	3	1	0	4
S	18ECS201J	Digital Electronics	3	0	2	4
C	18ECC201T	Electromagnetic Fields	3	0	0	3
C	18ECC202J	Analog Electronics	3	0	2	4
C	18ECC203T	Measurements and Instrumentation	3	0	0	3
C	18ECC204T	Network Analysis and Synthesis	3	0	0	3
P	18ECP103L	Minor Project I	0	0	2	1
M	18MBM201L	Competencies in Social Skills	0	0	2	1
M	18CYM201T/ 18LEM103T	Environmental Science/ Indian Tradition and Heritage	1	0	0	Nil
Total Credits						23

SEMESTER IV						
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
B	18MAB205T	Probability Theory and Random Processes	3	1	0	4
S	18ITS201J	Data Structures and Object Oriented Programming	3	0	2	4
C	18ECC205J	Analog Integrated Circuits	3	0	2	4
C	18ECC206T	Transmission lines and waveguides	3	1	0	4
C	18ECC207T	Signals and Systems	3	1	0	4
C	18ECC208J	Microprocessor and Microcontroller	3	0	2	4
P	18ECP104L	Minor Project II	0	0	2	1
M	18MBM202L	Critical and Creative Thinking Skills	0	0	2	1
M	18CYM201T/ 18LEM103T	Environmental Science / Indian Tradition and Heritage	1	0	0	Nil
Total Credits						26



SEMESTER V						
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
C	18ECC301J	Digital signal Processing	3	0	2	4
C	18ECC302T	Antennas and Wave propagation	3	0	0	3
C	18ECC303T	Analog Communication	3	0	0	3
E		Professional Elective – 1	3	0	2	4
E		Professional Elective – 2	3	0	0	3
O		Open Elective -1	3	0	0	3
P	18ECP105L	Minor Project III	0	0	2	1
P	18ECP101N	MOOC I / Industrial Training I	0	0	2	1
M	18MBM301L	Analytical and Logical Thinking Skills	0	0	2	1
M	18LEM301T/ 18LEM302T	Indian Art Forms/Self Development and Entrepreneurship	1	0	0	Nil
Total Credits						23

SEMESTER VI						
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
H	18MBH201T	Management Principles for Engineers	2	0	0	2
C	18ECC304J	Digital communication	3	0	2	4
C	18ECC305J	Microwave Engineering	3	0	2	4
E		Professional Elective – 3	3	0	2	4
E		Professional Elective – 4	3	0	0	3
O		Open Elective – 2	3	0	0	3
P	18ECP106L	Minor Project IV	0	0	2	1
P	18ECP102N	MOOC II / Industrial Training II	0	0	2	1
M	18MBM302L	Employability Skills and Practices	0	0	2	1
M	18LEM301T/ 18LEM302T	Indian Art Forms / Self Development and Entrepreneurship	1	0	0	Nil
Total Credits						23



SEMESTERVII						
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
H	18MBH202T	Social Engineering	2	0	0	2
C	18ECC401T	Wireless Communication	3	0	0	3
E		Professional Elective – 5	3	0	2	4
E		Professional Elective – 6	3	0	0	3
E		Open Elective 3 / Professional Elective- 7	-	-	-	3
Total Credits						15

SEMESTERVIII						
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
E		Professional Elective – 8	3	0	0	3
E		Professional Elective – 9	3	0	0	3
P	18ECP107L	Project work	0	0	16	8
Total Credits						14

T-Lecture

T-Lecture+Tutorial

L-Practical, Project

J-Lecture+Project



Category / Semester	I	II	III	IV	V	VI	VII	VIII	Category wise Total Credits
Science and Humanities (H)	04	04	-	-	-	02	02	-	12
Basic Sciences (B)	09	09	04	04	-	-	-	-	26
Engg Science (S)	07	07	04	04	-	-	-	-	22
Professional Core (C)	-	-	13	16	10	08	03	-	50
Professional Elective (E)	-	-	-	-	07	07	07/10	06	27/30
Open Elective (O)	-	-	-	-	03	03	03/-	-	09/06
Project Work (P)	-	-	01	01	02	02	-	08	14
Mandatory Course (M)	-	-	01	01	01	01	-	-	04
Semester Wise Total Credits	20	20	23	26	23	23	15	14	164