MCKV INSTITUTE OF ENGINEERING

NAAC Accredited "A" Grade Autonomous Institute under UGC Act 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal

243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India
Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

Curriculum for Undergraduate Degree (B.Tech.) in Electronics and Communication Engineering (w.e.f. AY: 2020-21)

Part I: Introduction, Theme & Category wise Credit Distribution

A. Definition of Credit:

Sl. No.	Description	Credit
1	1 Hr. Lecture (L) Per Week	1.0
2	1 Hr. Tutorial (T) Per Week	1.0
3	1 Hr. Practical/ Lab (P) Per Week	0.5
4	2 Hrs. Practical/ Lab (P) Per Week	1.0

B. Range of Credits:

As per AICTE, a student covering 160 credits during 4 years of studies as per curriculum of the Institute will be eligible to get Under Graduate B.Tech. degree. A student will be eligible to get B.Tech. degree with Honours, if he/ she completes an additional 20 credits. These could be acquired through MOOCs prescribed by the Institute. Every student admitted to the 4 years B.Tech programme is required to earn a minimum of 100 Activity Points under Mandatory Additional Requirement (MAR), in addition to the required academic grades, for getting B.Tech./ B.Tech. (Honours) degree.

C. Category wise Credit Distribution:

Sl. No.	Category	Credit Allotted	Credit as per AICTE
1	Humanities and Social Sciences including Management Courses	11	12
2	Basic Science Courses	27	25
3	Engineering Science Courses including Workshop, Drawing, Basics of Electrical/ Mechanical/ Computer etc.	24	24
4	Professional Core Courses	50	48
5	Professional Elective Courses relevant to chosen specialization/ branch	18	18
6	Open Elective Courses from other technical and / or emerging subjects	16	18
7	Project Work, Seminar and Internship in Industry or elsewhere	14	15
8	Mandatory Courses [Environmental Sciences, Induction Training, Indian Constitution, Essence of Indian Traditional Knowledge, Aptitude Skill]	0	Non-Credit
	Total	160	160

MCKV INSTITUTE OF ENGINEERING

NAAC Accredited "A" Grade Autonomous Institute under UGC Act 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal

243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India
Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

D. Course Code and Definition:

Sl. No.	Course Code	Definitions
1	L	Lecture
2	T	Tutorial
3	P	Practical
4	BS	Basic Science Courses
5	ES	Engineering Science Courses
6	HM	Humanities and Social Sciences including Management Courses
7	PC	Professional Core Courses
8	PE	Professional Elective Courses
9	OE	Open Elective Courses
10	MC	Mandatory Courses
11	PW	Project/ Internships/ Sessional

E. Courses in different Category:

Humanities and Social Sciences including Management Courses						
Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	Credits
Theory							
1	I	HM-HU101	English	2	0	0	2
2	VI	HM-HU601	Economics for Engineers	3	0	0	3
3	VI	HM-HU602	Value and Ethics in Profession	2	0	0	2
4	VII	HM-HU702	Principles of Management	2	0	0	2
			Total Theory	**9**	**0**	**0**	**9**
Practical/ Sessional							
1	II	HM-HU291	Language Laboratory	0	0	2	1
2	IV	HM-HU491	Soft Skill Development Lab	0	0	2	1
			Total Practical/ Sessional	**0**	**0**	**4**	**2**
			Total	**9**	**0**	**4**	**11**

Basic Science Courses						
Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	Credits
Theory							
1	I	BS-PH101	Physics	3	1	0	4
2	I	BS-M101	Mathematics-I	3	1	0	4

MCKV INSTITUTE OF ENGINEERING

NAAC Accredited "A" Grade Autonomous Institute under UGC Act 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal

243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

3	II	BS-CH201	Chemistry	3	1	0	4
4	II	BS-M201	Mathematics-II	3	1	0	4
5	IV	BS-M304	Numerical Methods	2	0	0	2
6	III	BS-M402	Mathematics-III	3	0	0	3
7	IV	BS-BIO401	Biology	2	0	0	2
			Total Theory	**19**	**4**	**0**	**23**
			Practical/ Sessional				
1	I	BS-PH191	Physics Laboratory	0	0	3	1.5
2	II	BS-CH291	Chemistry Laboratory	0	0	3	1.5
3	III	BS-M394	Numerical Methods Lab	0	0	2	1
			Total Practical/ Sessional	**0**	**0**	**8**	**4**
			Total	**19**	**4**	**8**	**27**

Engineering Science Courses including Workshop, Drawing, Basics of Electrical/ Mechanical/ Computer etc.				Contact Hours			Credits
Sl No.	Semester	Course Code	Course Name	L	T	P	
Theory							
1	I	ES-EE101	Basic Electrical and Electronics Engineering	3	1	0	4
2	II	ES-CS201	Programming for Problem Solving	3	0	0	3
3	III	ES-CS301	Data Structure and Algorithm	3	0	0	3
4	IV	ES-CS401	Operating System	3	0	0	3
			Total Theory	**12**	**1**	**0**	**13**
			Practical/ Sessional				
1	I	ES-EE191	Basic Electrical and Electronics Engineering Laboratory	0	0	4	2
2	I	ES-ME191	Engineering Graphics and Design	1	0	4	3
3	II	ES-CS291	Programming for Problem Solving Lab	0	0	4	2
4	II	ES-ME292	Workshop/Manufacturing Practices	1	0	4	3
5	III	ES-CS391	Data Structure Lab	0	0	2	1
			Total Practical/ Sessional	**2**	**0**	**18**	**11**
			Total	**14**	**1**	**18**	**24**

MCKV INSTITUTE OF ENGINEERING

NAAC Accredited "A" Grade Autonomous Institute under UGC Act 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal

243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India
Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Professional Core Courses							
Theory							
1	III	PC-EC301	Electronic Devices	3	0	0	3
2	III	PC-EC302	Analog Electronic Circuits	3	0	0	3
3	III	PC-EC303	Signals and Systems	3	0	0	3
4	III	PC-EC304	Network Theory	3	0	0	3
5	IV	PC-EC401	Analog Communication	3	0	0	3
6	IV	PC-EC402	Digital System Design	3	0	0	3
7	IV	PC-EC403	Microprocessors and Microcontrollers	3	0	0	3
8	V	PC-EC501	Electromagnetic Waves and Transmission Line	3	0	0	3
9	V	PC-EC502	Computer Architecture	3	0	0	3
10	V	PC-EC503	Digital Communication and Stochastic Process	3	0	0	3
11	V	PC-EC504	Digital Signal Processing	3	0	0	3
12	VI	PC-EC601	Control System	3	0	0	3
13	VI	PC-EC602	Computer Network	3	0	0	3
		Total Theory		**39**	**0**	**0**	**39**
Practical/ Sessional							
1	III	PC-EC391	Electronic Devices Lab	0	0	2	1
2	III	PC-EC392	Analog Electronic Circuits Lab	0	0	2	1
3	IV	PC-EC491	Analog Communication Lab	0	0	2	1
4	IV	PC-EC492	Digital System Design Lab	0	0	2	1
5	IV	PC-EC493	Microprocessors and Microcontrollers Lab	0	0	2	1
6	V	PC-EC591	Electromagnetic Waves and Transmission Line Lab	0	0	2	1
7	V	PC-EC592	Computer Architecture Lab	0	0	2	1
8	V	PC-EC593	Digital Communication Lab	0	0	2	1
9	V	PC-EC594	Digital Signal Processing Lab	0	0	2	1
10	VI	PC-EC691	Control System Lab	0	0	2	1
11	VI	PC-EC692	Computer Network Lab	0	0	2	1
		Total Practical/ Sessional		**0**	**0**	**22**	**11**
Total				**38**	**0**	**22**	**50**

MCKV INSTITUTE OF ENGINEERING

NAAC Accredited "A" Grade Autonomous Institute under UGC Act 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal

243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India
Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

Professional Elective Courses relevant to chosen specialization/ branch

Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	V	PE-EC501	Professional Elective-I	3	0	0	3
2	VI	PE-EC601	Professional Elective-II	3	0	0	3
3	VII	PE-EC701	Professional Elective-III	3	0	0	3
4	VII	PE-EC702	Professional Elective-IV	3	0	0	3
5	VIII	PE-EC801	Professional Elective-V	3	0	0	3
6	VIII	PE-EC802	Professional Elective-VI	3	0	0	3
			Total Theory	**18**	**0**	**0**	**18**
			Practical/ Sessional				
			Total Practical/ Sessional	**0**	**0**	**0**	**0**
			Total	**18**	**0**	**0**	**18**

Open Elective Courses from other technical and / or emerging subjects

Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	V		Open Elective-I	3	0	0	3
2	VI		Open Elective-II	3	0	0	3
3	VII		Open Elective-III	3	0	0	3
4	VII		Open Elective-IV	3	0	0	3
5	VIII		Open Elective-V	3	0	0	3
			Total Theory	**15**	**0**	**0**	**15**
			Practical/ Sessional				
1	VI		Open Elective-II (Lab)	0	0	2	1
			Total Practical/ Sessional	**0**	**0**	**2**	**1**
			Total	**15**	**0**	**2**	**16**

MCKV INSTITUTE OF ENGINEERING

NAAC Accredited "A" Grade Autonomous Institute under UGC Act 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal

243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
			Project Work, Seminar and Internship in Industry or elsewhere				

Project Work, Seminar and Internship in Industry or elsewhere

Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1							
			Total Theory	**0**	**0**	**0**	**0**
Practical/ Sessional							
1	VI	PW-EC681	Mini Project/ Electronic Design Workshop	0	0	4	2
2	VII	PW-EC781	Industrial Training	During Semester Break(6th & 7th)			1
3	VII	PW-EC782	Project-I	0	0	6	3
4	VIII	PW-EC881	Project-II	0	0	14	7
5	VIII	PW-EC882	Comprehensive Viva Voce	0	0	0	1
			Total Practical/ Sessional	**0**	**0**	**24**	**14**
			Total	**0**	**0**	**24**	**14**

Mandatory Courses
[Environmental Sciences, Induction Training, Indian Constitution, Essence of Indian Traditional Knowledge, Aptitude Skill]

Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1							
			Total Theory	**0**	**0**	**0**	**0**

Sl No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Practical/ Sessional							
1	III	MC371	Environmental Sciences	2	0	0	0
2	IV	MC472	Constitution of India	2	0	0	0
3	V	MC571	Aptitude Skill Development-I	2	0	0	0
4	V	MC573	Essence of Indian Traditional Knowledge	2	0	0	0
5	VI	MC671	Aptitude Skill Development-II	2	0	0	0
			Total Theory	**10**	**0**	**0**	**0**
			Total Practical/ Sessional	**0**	**0**	**0**	**0**
			Total	**10**	**0**	**0**	**0**