



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 Electrical Engineering (w.e.f. AY: 2020-21)

Part II: Course Structure & Semester wise Credit Distribution

First Semester (First Year)							
Mandatory Induction Program- 3 Weeks Duration							
Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-CH101	Chemistry	3	1	0	4
2	BS	BS-M101	Mathematics-I	3	1	0	4
3	ES	ES-CS101	Programming for Problem Solving	3	0	0	3
Total Theory				9	2	0	11
Practical/ Sessional/ Mandatory Course							
1	BS	BS-CH191	Chemistry Laboratory	0	0	3	1.5
2	ES	ES-CS191	Programming for Problem Solving Lab	0	0	4	2
3	ES	ES-ME192	Workshop/ Manufacturing Practices	1	0	4	3
4	HM	HM-HU191	Language Laboratory	0	0	2	1
Total Practical/ Sessional/ Mandatory Course				1	0	13	7.5
Total of First Semester				10	2	13	18.5

Second Semester (First Year)							
Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-PH201	Physics	3	1	0	4
2	BS	BS-M201	Mathematics-II	3	1	0	4
3	ES	ES-EE201	Basic Electrical & Electronics Engineering	4	0	0	4
4	HM	HM-HU201	English	2	0	0	2
Total Theory				12	2	0	14
Practical/ Sessional/ Mandatory Course							
1	BS	BS-PH291	Physics Laboratory	0	0	3	1.5
2	ES	ES-EE291	Basic Electrical & Electronics Engineering Lab	0	0	3	1.5



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3	ES	ES-ME291	Engineering Graphics & Design	1	0	4	3
<i>Total Practical/ Sessional/ Mandatory Course</i>				1	0	10	6
Total of Second Semester				14	2	10	20

Third Semester (Second Year)

Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-EE301	Electric Circuit Theory	3	1	0	4
2	PC	PC-EE302	Analog Electronics	3	0	0	3
3	PC	PC-EE303	Electromagnetic field theory	3	0	0	3
4	BS	BS-M302	Mathematics-III	3	0	0	3
5	BS	BS-M304	Numerical Methods	2	0	0	2
6	BS	BS-BIO301	Biology	2	0	0	2
7	MC	MC372	Indian Constitution	2	0	0	0
Total Theory				18	1	0	17
Practical/ Sessional/ Mandatory Course							
1	PC	PC-EE391	Electric Circuit Theory Laboratory	0	0	2	1
2	PC	PC-EE392	Analog Electronics Laboratory	0	0	2	1
3	ES	BS-M394	Numerical Methods Laboratory	0	0	2	1
Total Practical/ Sessional/ Mandatory Course				0	0	6	3
Total of Third Semester				18	1	6	20

Fourth Semester (Second Year)

Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-EE401	Electric Machine-I	3	1	0	4
2	PC	PC-EE402	Digital Electronics	3	0	0	3
3	PC	PC-EE403	Electrical and Electronics Measurement	3	0	0	3
4	ES	ES-ME301	Engineering Mechanics	3	0	0	3
5	HM	HM-HU402	Values and Ethics in Profession	2	0	0	2
6	MC	MC471	Environmental Science	2	0	0	0
Total Theory				16	1	0	15
Practical/ Sessional/ Mandatory Course							



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1	PC	PC-EE491	Electric Machine-I Laboratory	0	0	2	1
2	PC	PC-EE492	Digital Electronics Laboratory	0	0	2	1
3	PC	PC-EE493	Electrical and Electronics Measurement Laboratory	0	0	3	1.5
<i>Total Practical/ Sessional/ Mandatory Course</i>				0	0	7	3.5
Total of Fourth Semester				16	1	7	18.5

Fifth Semester (Third Year)							
Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-EE501	Electric Machine-II	3	1	0	4
2	PC	PC-EE502	Power System-I	3	1	0	4
3	PC	PC-EE503	Control System	3	0	0	3
4	OE	OE-EE501	Open Elective-I	3	0	0	3
5	HM	HM-HU502	Economics for Engineers	3	0	0	3
6	MC	MC571	Aptitude Skill Development-I	2	0	0	0
Total Theory				17	2	0	17
Practical/ Sessional/ Mandatory Course							
1	PC	PC-EE591	Electric Machine-II Laboratory	0	0	2	1
2	PC	PC-EE592	Power System-I Laboratory	0	0	2	1
3	PC	PC-EE593	Control System Laboratory	0	0	2	1
4	OE	OE-EE591	Open Elective I Laboratory	0	0	2	1
5	PW	PW-EE581	Technical Seminar	0	0	0	1
Total Practical/ Sessional/ Mandatory Course				0	0	8	5
Total of Fifth Semester				17	2	8	22

List of Elective Courses	
OE-EE501	Open Elective-I
OE-EE501A	Microprocessor & Microcontroller
OE-EE501B	Digital Signal Processing (DSP)
OE-EE591	Open Elective-I Laboratory
OE-EE591A	Microprocessor & Microcontroller Laboratory
OE-EE591B	Digital Signal Processing (DSP) Laboratory



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Sixth Semester (Third Year)							
Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-EE601	Power Electronics	3	1	0	4
2	PC	PC-EE602	Power System-II	3	1	0	4
3	PE	PE-EE601	Professional Elective-I	3	0	0	3
4	OE	OE-EE601	Open Elective-II	3	0	0	3
5	OE	OE-EE602	Open Elective-III	3	0	0	3
6	MC	MC671	Aptitude Skill Development-II	2	0	0	0
Total Theory				17	2	0	17
Practical/ Sessional/ Mandatory Course							
1	PC	PC-EE691	Power Electronics Laboratory	0	0	2	1
2	PC	PC-EE692	Power System-II Laboratory	0	0	2	1
3	OE	OE-EE691	Open Elective-II Laboratory	0	0	2	1
4	HM	HM-HU691	Soft Skill Development II	0	0	2	1
Total Practical/ Sessional/ Mandatory Course				0	0	8	4
Total of Sixth Semester				17	2	8	21

List of Elective Courses	
PE-EE601	Professional Elective-I
PE-EE601A	Advanced Control system
PE-EE601B	Computational Electromagnetics
PE-EE601C	Renewable & Non-conventional Energy
OE-EE601	Open Elective-II
OE-EE601A	Data Structure & Algorithm
OE-EE601B	Computer Organization
OE-EE602	Open Elective-III
OE-EE602A	Electronic Devices
OE-EE602B	Analog & Digital Communication
OE-EE602C	VLSI System
OE-EE691	Open Elective-II Laboratory
OE-EE691A	Data Structure & Algorithm Laboratory
OE-EE691B	Computer Organization Laboratory



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Seventh Semester (Fourth Year)							
Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-EE701	Electric Drives	3	0	0	3
2	PE	PE-EE701	Professional Elective-II	3	0	0	3
3	PE	PE-EE702	Professional Elective-III	3	0	0	3
4	OE	OE-EE701	Open Elective-IV	3	0	0	3
5	HM	HM-HU703	Principle of Management	2	0	0	2
Total Theory				14	0	0	14
Practical/ Sessional/ Mandatory Course							
1	PC	PC-EE791	Electric Drives Lab	0	0	2	1
2	OE	OE-EE791	Open Elective-IV Laboratory	0	0	2	1
3	PW	PW-EE781	Electrical & Electronic design Laboratory-I	1	0	2	2
4	PW	PW-EE782	Project Stage-I	0	0	4	2
5	PW	PW-EE783	Industrial Training Evaluation	0	0	0	1
Total Practical/ Sessional/ Mandatory Course				1	0	10	7
Total of Seventh Semester				15	0	10	21

List of Elective Courses	
PE-EE701	Professional Elective-II
PE-EE701A	Advanced Power system
PE-EE701B	Advanced Electric Machine
PE-EE701C	Sensors & Transducers
PE-EE702	Professional Elective-III
PE-EE702A	Biomedical Instrumentation
PE-EE702B	Power Generation and Economics
PE-EE702C	Illumination Engineering
OE-EE701	Open Elective-IV
OE-EE701A	Software Engineering
OE-EE701B	Data Base Management System
OE-EE701C	Object Oriented Programming
OE-EE791	Open Elective-IV Laboratory
OE-EE791A	Software Engineering Laboratory
OE-EE791B	Data Base Management System Laboratory
OE-EE791C	Object Oriented Programming Laboratory



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Eighth Semester (Fourth Year)							
Sl No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PE	PE-EE801	Professional Elective-IV	3	0	0	3
2	PE	PE-EE802	Professional Elective-V	3	0	0	3
3	OE	OE-EE801	Open Elective-V	3	0	0	3
Total Theory				9	0	0	9
Practical/ Sessional/ Mandatory Course							
1	PW	PW-EE881	Electrical & Electronic design Laboratory-II	0	0	2	1
2	PW	PW-EE882	Project stage-II	0	0	16	8
3	PW	PW-EE883	Comprehensive Viva Voce	0	0	0	1
Total Practical/ Sessional/ Mandatory Course				0	0	16	10
Total of Eighth Semester				9	0	16	19

List of Elective Courses	
PE-EE801	Professional Elective-IV
PE-EE801A	Power Quality & Deregulation
PE-EE801B	Power Plant Engineering
PE-EE801C	High Voltage Engineering
PE-EE802	Professional Elective-V
PE-EE802A	Utilization of Electric Power
PE-EE802B	Process Control
PE-EE802C	Electrical Energy Conservation and Auditing
OE-EE801	Open Elective-V
OE-EE801A	Internet of Thing
OE-EE801B	Big Data Analysis
OE-EE801C	Computer Network
OE-EE801D	AI & Soft Computing
OE-EE801E	Optimization Technique