



MCKVINSTITUTE 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: +913326549315/17 Fax+913326549318 Web : www.mckvie.edu.in/

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

Part II: Course Structure & Semesterwise 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
<i>Total Theory</i>				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
<i>Total Practical/Sessional/Mandatory Course</i>				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 and Electronics Engineering	3	1	0	4
4	HM	HM-HU201	English	2	0	0	2
<i>Total Theory</i>				11	3	0	14
Practical/ Sessional / Mandatory Course							
1	BS	BS-PH291	Physics Laboratory	0	0	3	1.5
2	ES	ES-EE291	Basic Electrical and Electronics Engineering Lab	0	0	4	2



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3	ES	ES-ME291	Engineering Graphics and Design	1	0	4	3
<i>Total Practical/Sessional/Mandatory Course</i>				1	0	10	6.5
Total of Second Semester				13	3	10	20.5

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
<i>Total Theory</i>				18	1	0	17
Practical/Sessional/Mandatory Course							
1	PC	PC-EE391	Electric Circuit Theory Lab	0	0	2	1
2	PC	PC-EE392	Analog Electronics Lab	0	0	2	1
3	ES	BS-M394	Numerical Methods Lab	0	0	2	1
<i>Total Practical/Sessional/Mandatory Course</i>				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-ME401	Engineering Mechanics	3	0	0	3
5	HM	HM-HU402	Values and Ethics in Profession	2	0	0	2
<i>Total Theory</i>				14	1	0	15
Practical/Sessional/Mandatory Course							



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1	PC	PC-EE491	Electric Machine-I Lab	0	0	2	1
2	PC	PC-EE492	Digital Electronics Lab	0	0	2	1
3	PC	PC-EE493	Electrical and Electronics Measurement Lab	0	0	3	1.5
4	MC	MC471	Environmental Science	2	0	0	0
<i>Total Practical/Sessional/Mandatory Course</i>				2	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-HU501	Economics for Engineers	3	0	0	3
<i>Total Theory</i>				15	2	0	17
Practical/Sessional/Mandatory Course							
1	PC	PC-EE591	Electric Machine-II Lab	0	0	2	1
2	PC	PC-EE592	Power System-I Lab	0	0	2	1
3	PC	PC-EE593	Control System Lab	0	0	2	1
4	OE	OE-EE591	Open Elective-I Lab	0	0	2	1
5	MC	MC571	Aptitude Skill Development-I	2	0	0	0
6	PW	PW-EE581	Technical Seminar	0	0	2	1
<i>Total Practical/Sessional/Mandatory Course</i>				2	0	10	5
Total of Fifth Semester				17	2	10	22

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



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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		Open Elective-II	3	0	0	3
5	OE		Open Elective-III	3	0	0	3
<i>Total Theory</i>				15	2	0	17
Practical/Sessional/Mandatory Course							
1	PC	PC-EE691	Power Electronics Lab	0	0	2	1
2	PC	PC-EE692	Power System-II Lab	0	0	2	1
3	OE		Open Elective- II Lab	0	0	2	1
4	HM	HM-HU691	Soft Skill Development Lab	0	0	2	1
5	MC	MC671	Aptitude Skill Development-II	2	0	0	0
<i>Total Practical/Sessional/Mandatory Course</i>				2	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 and Non-Conventional Energy
PE-EE601D	Network Analysis and Synthesis
Open Elective	Open Elective-II
OE-CS601F	Data Structure and Algorithm
OE-EC601B	Computer Organization
Open Elective	Open Elective-III
OE-EC601A	Analog and Digital Communication
OE-EC601C	Electronic Devices
OE-EC601E	VLSI System
Open Elective Lab	Open Elective-II Lab
OE-CS691F	Data Structure and Algorithm Lab
OE-EC691B	Computer Organization Lab



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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		Open Elective-IV	3	0	0	3
5	HM	HM-HU702	Principles of Management	2	0	0	2
<i>Total Theory</i>				14	0	0	14
Practical/Sessional/Mandatory Course							
1	PC	PC-EE791	Electric Drives Lab	0	0	2	1
2	OE		Open Elective-IV Lab	0	0	2	1
3	PW	PW-EE781	Electrical and Electronic Design Lab-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
<i>Total Practical/Sessional/Mandatory Course</i>				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 and Transducers
PE-EE702	Professional Elective-III
PE-EE702A	Biomedical Instrumentation
PE-EE702B	Power Generation and Economics
PE-EE702C	Illumination Engineering
PE-EE702D	Electrical and Hybrid Vehicle
Open Elective	Open Elective-IV
OE-CS701F	Data Base Management System
OE-CS701I	Software Engineering
OE-IT701E	Object Oriented Programming
Open Elective Lab	Open Elective-IV Lab
OE-CS791F	Data Base Management System Lab
OE-CS791I	Software Engineering Lab
OE-IT791E	Object Oriented Programming Lab



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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		Open Elective-V	3	0	0	3
<i>Total Theory</i>				9	0	0	9
Practical/Sessional/Mandatory Course							
1	PW	PW-EE881	Electrical and Electronic Design Lab-II	0	0	2	1
2	PW	PW-EE882	Project stage-II	0	0	16	7.5
3	PW	PW-EE883	Comprehensive Viva Voce	0	0	0	1
<i>Total Practical/Sessional/Mandatory Course</i>				0	0	16	9.5
Total of Eighth Semester				9	0	16	18.5

List of Elective Courses	
PE-EE801	Professional Elective-IV
PE-EE801A	Power Quality and Deregulation
PE-EE801B	Power Plant Engineering
PE-EE801C	High Voltage Engineering
PE-EE801D	HVDC Transmission
PE-EE802	Professional Elective-V
PE-EE802A	Utilization of Electric Power
PE-EE802B	Process Control
PE-EE802C	Electrical Energy Conservation and Auditing
Open Elective	Open Elective-V
OE-CS801A	AI and Soft Computing
OE-CS801C	Big Data Analytics
OE-IT801A	Computer Network
OE-IT801C	Internet of Thing
OE-M801A	Operational Research and Optimizing Technique