School of Engineering & Technology

Department of Electrical Engineering

B.Tech.- Electrical Engineering

Semester I & II

AY 2023-24

Semester I

Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit	Mark	
					L	T	P	C	CA	FA
T	1.	BSC		Chemistry	3	0	0	3	40	60
P	2.	BSC		Chemistry Laboratory	0	0	2	1	50	50
T	3.	BSC		Mathematics - I	3	1	0	4	40	60
T	4.	ESC		Programming for Problem Solving	2	0	0	2	40	60
P	5.	ESC		Programming for Problem Solving Laboratory	0	0	4	2	50	50
T/P	6.	HSMC		English for Technical Communication	2	0	2	3	50	50
T	7.	HSMC		Universal Human Values II	2	1	0	3	00	100
P	8.	ESC		Workshop	0	0	4	2	50	50
P	9.	AU		Sports & Yoga	2	0	0	0	00	100
				Total	**14**	**2**	**12**	**20**	**320**	**580**

Semester II

Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit	Mark	
					L	T	P	C	CA	FA
T	1.	BSC		Physics	3	0	0	3	40	60
P	2.	BSC		Physics Laboratory	0	0	2	1	50	50
T	3.	BSC		Biology for Engineers	3	0	0	3	40	60
T	4.	BSC		Mathematics - II	3	1	0	4	40	60
T	5.	ESC		Basic Electrical Engineering	3	1	0	4	40	60
P	6.	ESC		Basic Electrical Engineering Laboratory	0	0	2	1	50	50
T/P	7.	ESC		Engineering Graphics and Design	1	0	4	3	50	50
P	8.	ESC		Design Thinking	0	0	2	1	50	50
P	9.	AU		Idea Lab	2	0	2	0	00	100
Total					**15**	**2**	**12**	**20**	**360**	**540**

Internal Member

External Member/BoS

Course Code and Definition:

Basic Science Course

Sl. No	Course Type	Course Code	Course Name
1	BSC		Chemistry
2	BSC		Chemistry Laboratory
3	BSC		Mathematics - I
4	BSC		Physics
5	BSC		Physics Laboratory
6	BSC		Biology for Engineers
7	BSC		Mathematics - II

Engineering Science Course

Sl. No	Course Type	Course Code	Course Name
1	ESC		Programming for Problem Solving
2	ESC		Programming for Problem Solving Laboratory
3	ESC		Programming for Problem Solving
4	ESC		Workshop
5	ESC		Basic Electrical Engineering
6	ESC		Basic Electrical Engineering Laboratory
7	ESC		Engineering Graphics and Design
8	ESC		Design Thinking

Humanities and Social Sciences including Management courses

Sl. No	Course Type	Course Code	Course Name
1	HSMC		English for Technical Communication
2	HSMC		Universal Human Values II

Audit Course

Sl. No	Course Type	Course Code	Course Name
1	AU		Sports & Yoga
2	AU		Idea Lab

Internal Member

External Member/BoS

DEPARTMENT OF ELECTRICAL ENGINEERING

B.tech 3rd Sem Structure and Detailed Syllabus

Theory course

Sl. No	Course Type	Course code	Name of the Course	Hours per week			Credit
				L	T	P	C
1	BSC	BMA23113T	Mathematics III	3	1	0	4
2	PCC	BEL23201T	Electrical Circuit Analysis	3	0	0	3
3	PCC	BEL23202T	Analog Electronics	3	0	0	3
4	PCC	BEL23203T	Electrical Machines I	3	0	0	3
5	PCC	BEL23204T	Electrical Instruments and Measurements	2	2	0	3
6	ESC	BCS23207T	Computer Programming using Python	3	0	0	3
7	HSMC	BCH23112T	Environmental Science	2	0	0	0
				19	**3**	**0**	**19**

Practical course

Sl. No	Course Type	Course code	Name of the Course	Hours per week			Credit
				L	T	P	C
1	PCC	BEL23202P	Analog Electronics Lab	0	0	2	1
2	PCC	BEL23203P	Electrical Machines I Lab	0	0	2	1
3	PCC	BEL23204P	Electrical Instruments and Measurements Lab	0	0	2	1
				0	**0**	**6**	**3**

28/2/26

DEPARTMENT OF ELECTRICAL ENGINEERING

Structure: B.tech 4th sem structure and syllabus

Theory course

Sl. No	T/P	Course Type	Course code	Name of the Course	Hours per week			Credit
					L	T	P	C
1	T	PCC	BEL23205T	Electrical Machines II	3	0	0	3
2	T	PCC	BEL23206T	Power System I	3	0	0	3
3	T	PCC	BEL23207T	Digital Electronics	3	0	0	3
4	T	PCC	BEL23208T	Principles of Signal & Systems	3	0	0	3
5	T	PCC	BEL23209T	Renewable Energy Engineering	3	0	0	3
6	T	ESC	BEL23211T	Introduction to Machine Learning in Electrical Engineering	2	2	0	3
7	T	HSMC	BEL23212T	Indian Knowledge System	3	0	0	3
					20	**0**	**0**	**21**

Practical course

Sl. No	T/P	Course Type	Course code	Name of the Course	Hours per week			Credit
					L	T	P	C
1	P	PCC	BEL23205P	Electrical Machines II Lab	0	0	2	1
2	P	PCC	BEL23207P	Digital Electronics Lab	0	0	2	1
3	P	PCC	BEL23208P	Signal & Systems Lab	0	0	2	1
4	P	PCC	BEL23210P	Mini Project	0	0	2	1
					0	**0**	**8**	**4**

NOTE 2-3 weeks mandatory academic internship need to be done in the 4th semester summer break and the report is to be submitted and evaluated in 5th semester.

28/3/26

DEPARTMENT OF ELECTRICAL ENGINEERING

Structure: B.Tech 5th sem structure

5th semester

Sl. No	T/P	Course Type	Course code	Name of the Course	Hours per week			Credit
					L	T	P	C
1	T	PCC	BEL25301T	Control System	3	1	2	5
2	T	PCC	BEL25302T	Power Electronics	3	1	2	5
3	T	PCC	BEL25303T	Power System II	3	0	2	4
4	T	PCC	BEL25304T	Information and Communication System	3	0	0	3
5	T	PEC		Program Electives (DEL I)	3	0	0	3
6	T	HSMC	BME24111T	Entrepreneurship and Start-up	3	0	0	3
10	P	AUC	BEL25308P	Summer Internship Presentation	0	0	4	2
					18	2	10	25

DEL Courses

DEL I	BEL25305T	Electrical Safety
	BEL25306T	Solar Photovoltaic Technology
	BME23201T	Engineering Mechanics
	BME23303T	Mechatronics, Robotics and Control

25/3/26

DEPARTMENT OF ELECTRICAL ENGINEERING

Structure: B.Tech 6th sem

Sl. No	T/P	Course Type	Course code	Name of the Course	Hours per week			Credit
					L	T	P	C
1	T	PCC	BEL25309T	Power System III	3	1	2	5
2	T	PCC	BEL25310T	Microprocessor and Microcontroller	3	1	2	5
3	T	PCC	BEL25311T	Advanced Measurements and Instrumentation	3	1	2	5
4	T	PEC		Program Electives (DEL II)	3	0	0	3
5	T	PEC	BEL25315T	Electro Magnetic Field Theory	3	1	0	4
6	T	AUC	BEL25316T	Indian Constitution	3	0	0	0
					18	4	6	22

Summer Internship II / Minimum duration of 1 month internship in industry/ Design credit during the summer vacation

DEL II	BEL25312T	Electric Vehicle
	BEL25313T	Operating Systems
	BEL25314T	Instrumentation for Solar Energy System

28/3/26

2026-27

GIRIJANANDA CHOWDHURY UNIVERSITY

Hathkhowapara, Azara, Guwahati-781017, Assam

School of Engineering & Technology

Department of Electrical Engineering

Semester VII & Semester VIII

Sl. No	T/P	Course Type	Course code	Name of the Course	Hours per week			Credit
					L	T	P	C
1	T	PEC	BEL2642xT	Program Elective Course-1	3	0	0	3
2	T	PEC	BEL2642xT	Program Elective Course-2	3	0	0	3
3	T	MDC	BEL2644xT	Multidisciplinary Course-1	3	0	0	3
4	T	VAC		Accountancy	2	0	0	2
5	P	PCC	BEL26401P	Project-1	0	0	12	6
6	P	PCC	BEL26402P	Internship-2	0	0	4	2
					11	0	16	19

PEC 1	BEL26420T	Multivariable Control
	BEL26421T	Optimal Control Theory
	BEL26422T	Power System Protection
	BEL26423T	Power System Reliability

PEC 2	BEL26424T	Illumination Engineering
	BEL26425T	Sensors and Actuators
	BEL26426T	Robotics and Automation
	BEL26427T	HVDC and FACTS
	BEL26428T	Industrial Drives

MDC-1	BEL26441T	Biomedical Engineering
	BEL26442T	Smart Urban Planning
	BEL26443T	Digital Image Processing
	BEL26444T	I.C. Technology
	BEL26445T	Speech Processing
	BEL26446T	Computer Networks
	BEL26447T	Sustainable Energy Policy
	BEL26448T	Operation Research
	BEL26449T	Smart Grid Technology

31/7/26

BOS Member (Internal)

31/7/26

BOS Member (External)

2026-27

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School of Engineering & Technology

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Semester VIII

Sl. No	T/P	Course Type	Course code	Name of the Course	Hours per week			Credit
					L	T	P	C
1	P	PCC	BEL26403P	Project-2 Design Major Project or Start-up or One year Research in Industry/ other Academic or Research Institute	0	0	32	16

31/7/26

BOS Member (Internal)

31/7/26

BOS Member (External)