

BACHELOR OF TECHNOLOGY

Electrical & Electronics Engineering

COURSE STRUCTURE & SYLLABUS (Batches admitted from the Academic Year 2022 - 2023)



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
MALLA REDDY ENGINEERING COLLEGE FOR WOMEN
(Autonomous Institution-UGC, Govt. of India)

Accredited by NBA & NAAC with 'A' Grade

NIRF Indian Ranking, Accepted by MHRD, Govt. of India | Rank Band – Excellent by ARIIA, Accepted by MHRD, Govt. of India
Approved by AICTE, Affiliated to JNTUH, ISO9001:2015 Certified Institution

Platinum Rated by AICTE-CII Survey, AAAA+ Rated by Digital Learning Magazine, AAA+ Rated by Careers 360, National Ranking-Top 100 Rank band by Outlook Magazine,
2nd Rank by CSR, National Ranking-Top 100 Rank band by Times News Magazine, 141 Rank by India Today-Best Engineering Colleges of India Rankings-2020.
Maisammaguda, Dhulapally, Secunderabad, Kompally-500100.

COURSE STRUCTURE**I Year B. Tech – I Semester (I Semester)**

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks	
							INT	EXT
1	2200BS01	Linear Algebra and Differential Equations	3	1	-	4	30	70
2	2205ES01	Programming for Problem Solving	3	-	-	3	30	70
3	2200BS05	Applied Physics	3	1	-	4	30	70
4	2203ES01	Computer Aided Engineering Graphics	1	-	4	3	30	70
5	2200HS01	English	2	-	-	2	30	70
6	2200BS61	Applied Physics Lab	-	-	3	1.5	30	70
7	2200HS61	English Lab	-	-	2	1	30	70
8	2205ES61	Programming for Problem Solving Lab	-	-	3	1.5	30	70
9	2200MC02	Foreign Language: French	2	--	-	-	100	-
10		Induction Programme	-	-	-	-	-	-
		TOTAL	14	2	12	20	340	560

*Mandatory course: Non-credit course, 50% of scoring is required for the award of the degree

I Year B. Tech – II Semester (II Semester)

S.N O	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks	
							INT	EXT
1	2200BS02	Advanced Calculus	3	1	-	4	30	70
2	2205ES02	Python Programming	3	-	-	3	30	70
3	2202ES01	Basic Electrical Engineering	3	1	-	4	30	70
4	2200BS06	Engineering Chemistry	3	-	-	3	30	70
5	2203ES61	Engineering Workshop	1		3	2.5	30	70
6	2202ES61	Basic Electrical Engineering Lab	-	-	2	1	30	70
7	2205ES62	Python Programming Lab	-	-	3	1.5	30	70
8	2200BS62	Chemistry Lab	-	-	2	1	30	70
9	2200MC01	Environmental science	3	-	-	-	100	-
		TOTAL	15	2	10	20	340	560

*Mandatory course: Non-credit course, 50% of scoring is required for the award of the degree

II Year B. Tech – I Semester (III Semester)

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks	
							INT	EXT
1	2203ES03	Engineering Mechanics	3	-	-	3	30	70
2	2202PC01	Electrical Circuit Analysis	3	1	-	4	30	70
3	2202PC02	Electro Magnetic Fields	3	-	-	3	30	70
4	2202PC03	Analog Electronics	3	-	-	3	30	70
5	2202PC04	Signals and Systems	3	-	-	3	30	70
6	2202PC61	Analog Electronics Lab	-	-	3	1.5	30	70
7	2202PC62	Electrical Circuit Analysis Lab	-	-	3	1.5	30	70
8	2202PR01	Innovative Product Development -I			2	1	30	70
9*	2200MC04	Indian Constitution	2	-	-	-	100	-
	2202PC04	TOTAL	17	1	8	20	340	560

*Mandatory course: Non-credit course, 50% of scoring is required for the award of the Degree

II Year B. Tech – II Semester (IV Semester)

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks	
							INT	EXT
1	2200HS03	Managerial Economics & Financial Analysis	3	-	-	3	30	70
2	2200BS03	Mathematics-III	3	1	-	4	30	70
3	2202PC05	Electrical Machines – I	3	-	-	3	30	70
4	2202PC06	Power Systems – I	3	-	-	3	30	70
5	2202PC07	Digital Electronics	3	-	-	3	30	70
6	2202PC63	Digital Electronics Lab	-	-	3	1.5	30	70
7	2202PC64	Electrical Machines Lab – I	-	-	3	1.5	30	70
8	2202PR02	Innovative Product Development - II			2	1	30	70
9*	2200MC03	Human Values and Professional Ethics	2	-	-	-	100	-
		TOTAL	17	1	8	20	340	560

*Mandatory course: Non-credit course, 50% of scoring is required for the award of the Degree

III Year B. Tech – I Semester (V Semester)

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks	
							INT	EXT
1	2200HS05	Management Science	3	-	-	3	30	70
2	2202PC08	Control Systems	3	1	-	4	30	70
3	2202PC09	Electrical Machines-II	3	-	-	3	30	70
4	*****	Open Elective – I	3	-	-	3	30	70
5	*****	Professional Elective –I	3	-	-	3	30	70
6	2202PC65	Control Systems & Simulation Lab	-	-	3	1.5	30	70
7	2202PC66	Electrical Machines Lab – II	-	-	3	1.5	30	70
8	2202PR03	Innovative Product Development -III			2	1	30	70
9*	2200MC06	Indian Traditional Knowledge	2	-	-	-	100	-
		TOTAL	17	1	8	20	340	560

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III Year B. Tech – II Semester (VI Semester)

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks	
							INT	EXT
1	2200HS02	Professional English	3	-	-	3	30	70
2	2202PC10	Power Electronics	3	-	-	3	30	70
3	2202PC11	Power Systems – II	3	1	-	4	30	70
4	*****	Open Elective – II	3	-	-	3	30	70
5	*****	Professional Elective –II	3	-	-	3	30	70
6	2202PC67	Power Electronics & Simulation Lab	-	-	3	1.5	30	70
7	2202PC68	Power Systems Lab	-	-	3	1.5	30	70
8	2202PR04	Innovative Product Development -IV			2	1	30	70
9*	2200MC05	Technical Communication & Soft skills	2	-	-	-	100	-
		TOTAL	17	1	8	20	340	560

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Industry Oriented Mini Project/ Internship - During Summer Vacation-Evaluation in IV-I

IV Year B. Tech – I Semester (VII Semester)

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks	
							INT	EXT
1	2202PC12	Electrical Measurements & Instrumentation	3	-	-	3	30	70
2	2202PC13	Microprocessors & Microcontrollers	3	-	-	3	30	70
3	*****	Open Elective – III	3	-	-	3	30	70
4	*****	Professional Elective – III	3	-	-	3	30	70
5	*****	Professional Elective – IV	3	-	-	3	30	70
6	2202PC69	Electrical Measurements & Instrumentation Lab	-	-	3	1	30	70
7	2204PC70	Microprocessors & Microcontrollers Lab	-	-	3	1	30	70
8	2202PR05	Innovative Product Development -V			2	1	30	70
9	2202PR06	Industry Oriented Mini Project /Internship	-	-	2	1	30	70
10	2202PR07	Project -I	-	-	2	1	30	70
11*	2200MC07	Gender Sensitization	2	-	-	-	100	-
		TOTAL	17	-	14	20	400	700

*Mandatory course: Non-credit course, 50% of scoring is required for the award of the Degree

IV Year B. Tech – II Semester (VIII Semester)

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks	
							INT	EXT
1	*****	Open Elective – IV	3	-	-	3	30	70
2	*****	Professional Elective – V	3	-	-	3	30	70
3	*****	Professional Elective – VI	3	-	-	3	30	70
4	2202PR09	Technical Seminar	-	-	4	2	100	-
5	2202PR09	Innovation- Start-Up & Entrepreneurship	-	-	6	3	50	100
6	2202PR10	Project - II	-	-	12	6	50	100
		TOTAL	9	-	14	20	290	410

Semester	I-I	I-II	II-I	II-II	III-I	III-II	IV-I	IV-II	TOTAL
Credits	20	20	20	20	20	20	20	20	160

TOTAL Credits: 160

PROFESSIONAL ELECTIVES					
Professional Elective -I		Professional Elective -II		Professional Elective -III	
2202PE01	Wind & Solar Energy Systems	2202PE04	Power System Protection	2202PE07	Digital Signal Processing
2202PE02	High Voltage Engineering	2202PE05	Electrical & Hybrid Vehicles	2202PE08	Power System Operation & Control
2202PE03	Line Commutated Active Rectifiers	2202PE06	Electrical Estimation & Costing	2202PE09	Electrical Machine Design
Professional Elective -IV		Professional Elective -V		Professional Elective -VI	
2202PE10	Power Semiconductor Drives	2202PE13	Power Quality & FACTS Devices	2202PE16	Utilization of Electrical Energy
2202PE11	High Energy Storage Systems	2202PE14	Power System Analysis	2202PE17	EHV AC Transmission Systems
2202PE12	Digital Control Systems	2202PE15	Electrical Distribution Systems	2202PE18	Programmable Logic Controller & Applications

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List of Open Electives offered by Various Departments for B.Tech. III & IV Year

S.No	Name of the Department Offering Open Electives	Open Elective –I (Semester- V)	Open Elective –II (Semester –VI)	Open Elective –III (Semester –VII)	Open Elective –IV (Semester –VIII)
1	Electronics & Communication Engineering	2204OE01: Computer Organization 2204OE02: Sensors & Actuators	2204OE03: Principles of Electronic Communications 2204OE04: Fuzzy Logic & Neural Networks	2204OE05: Principles of Computer Communications & Networks 2204OE06: Internet of Things	2204OE07: Microprocessor and Interfacing 2204OE08: Robotics
2	Computer Science & Engineering	2205OE01: Data Structures using PYTHON 2205OE02: Operating Systems Principles	2205OE03: Java Programming 2205OE04: Data & Knowledge Mining	2205OE05: Case Tools & Software Testing 2205OE06: Fundamentals of Database Management Systems	2205OE07: Computer Forensics 2205OE08: Cryptography and Network Security
3	Information Technology	2212OE01: Image Processing 2212OE02: Software Engineering Principles	2212OE03: Web Design 2212OE04: Design Patterns	2212OE05: Introduction to Linux 2212OE06: Principles of Programming Languages	2212OE07: R-Programming 2212OE08: Scripting Languages
4	Electrical & Electronics Engineering	2202OE01: Computer Organization and Operating Systems 2202OE02: Elements of Electrical Engineering	2202OE03: Principles of Power System Engineering 2202OE04: Utilization of Solar Energy	2202OE05: Renewable Energy Systems 2202OE06: Basics Control System Engineering	2202OE07: Energy storage Systems 2202OE08: Illumination Engineering