BACHELOR OF TECHNOLOGY

Information Technology

COURSE STRUCTURE &SYLLABUS

(Batches admitted from the Academic Year 2022 -2023)

MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

(Autonomous Institution-UGC, Govt. of India)

Accredited by NBA & NAAC with 'A' Grade, UGC, Govt. of India
NIRF Indian Ranking–2020, Accepted by MHRD, Govt. of India
Permanently Affiliated to JNTUH, Approved by AICTE, ISO 9001:2015 Certified Institution
AAAA+ Rated by Digital Learning Magazine, AAA+ Rated by Careers 360 Magazine
3rd Rank CSR, Platinum Rated by AICTE-CII Survey, Top 100 Rank band by ARIIA, MHRD, Govt. of India
National Ranking-Top 100 Rank band by Outlook, National Ranking-Top 100 Rank band by Times News Magazine
Maisammaguda, Dhullapally, Secunderabad, Kompally-500100

COURSE STRUCTURE(R22)

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COURSE STRUCTURE

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

S. No	Course Code	Subject	L	T	P	C	Max. Marks	
							INT	EXT
1	2200BS01	Linear Algebra and Differential Equations	3	1	-	4	40	60
2	2205ES01	Programming for Problem Solving	3	-	-	3	40	60
3	2200BS05	Applied Physics	3	1	-	4	40	60
4	2203ES01	Computer Aided Engineering Graphics	1	-	4	3	40	60
5	2200HS01	English	2	-	-	2	40	60
6	2200BS61	Applied Physics Lab	-	-	3	1.5	40	60
7	2200HS61	English Lab	-	-	2	1	40	60
8	2205ES61	Programming for Problem Solving Lab	-	-	3	1.5	40	60
9	2200MC02	Foreign Language: French	2	--	-	-	100	-
10		Induction Programme	-	-	-	-	-	-
		TOTAL	**14**	**2**	**12**	**20**	**420**	**480**

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

S. No	Course Code	Subject	L	T	P	C	Max. Marks	
							INT	EXT
1	2200BS02	Advanced Calculus	3	1	-	4	40	60
2	2205ES02	Python Programming	3	-	-	3	40	60
3	2202ES01	Basic Electrical Engineering	3	1	-	4	40	60
4	2200BS06	Engineering Chemistry	3	-	-	3	40	60
5	2203ES61	Engineering Workshop	1		3	2.5	40	60
6	2202ES61	Basic Electrical Engineering Lab	-	-	2	1	40	60
7	2205ES62	Python Programming Lab	-	-	3	1.5	40	60
8	2200BS62	Chemistry Lab	-	-	2	1	100	0
9	2200MC01	Environmental science	1	-	-	-	**100**	**0**
		TOTAL	**14**	**2**	**10**	**20**	**420**	**480**

**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	Course Code	Subject	L	T	P	C	Max. Marks	
							INT	EXT
1	2200BS04	Probability &Statistics	3	1	0	4	40	60
2	2200HS03	Managerial Economics and Financial Analysis	3	0	0	3	40	60
3	2205PC01	Data Structures and Algorithms Using Python	3	0	0	3	40	60
4	2205PC02	Operating System	3	0	0	3	40	60
5	2205PC03	Discrete Mathematics	3	0	0	3	40	60
6	2205PC61	Data Structures and Algorithms Using Python lab	0	0	3	1.5	40	60
7	2205PC62	Operating System Lab	0	0	3	1.5	40	60
8	2212PR01	Innovative Product Development-1	0	0	2	1	40	60
9	2200MC03	Human values and Professional Ethics	2	0	0	0	100	0
		TOTAL	**17**	**1**	**8**	**20**	**420**	**480**

**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	Course Code	Subject	L	T	P	C	Max. Marks	
							INT	EXT
1	2204ES01	Analog & Digital Electronic Circuits	3	0	0	3	40	60
2	2205PC05	Design and Analysis of Algorithms	3	1	0	4	40	60
3	2205PC06	Object Oriented Programming through Java	3	0	0	3	40	60
4	2205PC07	Formal Language & Automata Theory	3	0	0	3	40	60
5	2205PC08	Database Management Systems	3	0	0	3	40	60
6	2205PC63	Object Oriented Programming through Java Lab	0	0	3	1.5	40	60
7	2205PC64	Database Management Systems Lab	0	0	3	1.5	40	60
8	2212PR02	Innovative Product Development-2	0	0	2	1	40	60
9	2200MC04	Indian Constitution *	2	0	0	0	100	0
		TOTAL	**17**	**1**	**8**	**20**	**420**	**480**

**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	Course Code	Subject	L	T	P	C	Max. Marks	
							INT	EXT
1	2200HS04	Management Science	3	0	0	3	40	60
2	2205PC09	Compiler Design	3	1	0	4	40	60
3	2205PC10	Software Engineering &Computer Networks	3	0	0	3	40	60
4		Professional Elective-1	3	0	0	3	40	60
5		Open Elective-1	3	0	0	3	40	60
6	2205PC65	Compiler Design Lab	0	0	3	1.5	40	60
7	2205PC66	Computer Networks Lab	0	0	3	1.5	40	60
8	2212PR03	Innovative Product Development-3	0	0	2	1	40	60
9	2200MC05	Technical Communications and Soft Skills*	2	0	0	0	100	0
		TOTAL	**17**	**1**	**8**	**20**	**420**	**480**

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

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

S. No	Course Code	Subject	L	T	P	C	Max. Marks	
							INT	EXT
1	2200HS02	Professional English	3	0	0	3	40	60
2	2212PC01	Data Warehousing and Data Mining	3	0	0	3	40	60
3	2212PC02	**Full Stack Development**	3	1	0	4	40	60
4		Professional Elective – I	3	0	0	3	40	60
5		Open Elective-II	3	0	0	3	40	60
6	2212PC61	Data Warehousing and Data Mining Lab	0	0	3	1.5	40	60
7	2212PC62	**Full Stack Development Lab**	0	0	3	1.5	40	60
8	2212PR04	Innovative Product Development-4	0	0	2	1	40	60
9	2200MC06	Indian Tradition Knowledge *	2	0	0	0	100	0
		TOTAL	**17**	**1**	**8**	**20**	**420**	**480**

**Mandatory course: Non-credit course, 50% of scoring is required for the award of the degree Industry Oriented Mini Project/ Internship - During Summer Vacation-Evaluation in*

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

S. No	Course Code	Subject	L	T	P	C	Max. Marks	
							INT	EXT
1	2212PC04	Machine Learning	3	0	0	3	40	60
2	2212PC03	Information Security	3	0	0	3	40	60
3		Professional Elective-I	3	0	0	3	40	60
4		Open Electives-II	3	0	0	3	40	60
5	2212PC64	Machine Learning Lab	0	0	3	1.5	40	60
6	2212PC63	Information Security Lab	0	0	3	1.5	40	60
7	2212PR05	Innovative Product Development-5	0	0	2	1	40	60
8	2212PR06	Industry Oriented Mini Project / Internship	0	0	0	2	40	60
9	2200MC07	Gender Sensitization*	2	0	0	0	100	0
		TOTAL	**17**	**0**	**12**	**20**	**500**	**600**

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

*Summer between III & IV Year: Mini Project

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

S. No	Course Code	Subject	L	T	P	C	Max. Marks	
							INT	EXT
1		Professional Elective-V	3	0	0	3	40	60
2		Professional Elective-VI	3	0	0	3	40	60
3		Open Electives-IV	3	0	0	3	40	60
4	2212PR08	Technical Seminar	2	0	0	2	100	0
5	2212PR09	Innovation Startup & Entrepreneurship	0	0	6	3	40	60
6	2212PR10	Project-II	0	0	12	6	40	60
		TOTAL	**11**	**0**	**18**	**20**	**300**	**300**

Semester	I-I	I-II	II-I	II-II	III-I	III-II	IV-I	IV-II	TOTAL
Credits	18	19	23	23	22	22	24	9	160

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PROFESSIONAL ELECTIVES

PROFESSIONAL ELECTIVES					
Professional Elective -I		**Professional Elective -II**		**Professional Elective -III**	
2205PE01	Artificial Neural Networks	**2205PE04**	Principles Natural language Processing	**2205PE07**	Pattern Recognition
2205PE02	Foundations of Data Science	**2205PE05**	Social Network Analytics	**2205PE08**	Web Mining
2205PE03	Computer Graphics & Multimedia	**2205PE06**	Mobile Computing	**2205PE09**	Real-Time Systems
Professional Elective -IV		**Professional Elective -V**		**Professional Elective -VI**	
2205PE10	Computer Vision	**2205PE13**	Deep Learning	**2205PE16**	Web Services
2205PE11	Business Analytics	**2205PE14**	Big Data Analytics	**2205PE17**	Distributed Trust and Block Chain Technology
2205PE12	Cloud Computing	**2205PE15**	Soft Computing	**2205PE18**	Internet of Things