



# MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE

(UGC-AUTONOMOUS INSTITUTION)

Affiliated to JNTUA, Ananthapuramu & Approved by AICTE, New Delhi  
NAAC Accredited with A+ Grade, NIRF India Rankings 2024 - Band: 201-300 (Engg.)  
NBA Accredited - B.Tech. (CIVIL, CSE, ECE, EEE, MECH,CST), MBA & MCA



**4** QUALITY  
EDUCATION



# CURRICULUM



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<b>B. Tech (R20,R23) Regulation Curriculum</b>			<b>SDG linked to the Curriculum</b>	
S.No	Course Code	Course Name	SDG Mapped	Department
1	23ENG101	Communicative English	4	CIVIL
2	23ENG201	Communicative English Laboratory	4	
3	23HUM101	Universal Human Values	4	
4	23HUM202	NSS / NCC / Scouts and Guides / Community Service	4	
5	23ECE103	Electronic Devices and Circuits	4	
6	23ECE104	Digital Circuits Design	4	
7	23ECE202	Electronic Devices and Circuits Laboratory	4	
8	23ECE203	Digital Circuits and Signal Simulation Lab	4	
9	23ECE106	EM Waves and Transmission Lines	4	
10	23ECE107	Analog Circuits	4	
11	20ECE416	Digital Image and Video Processing	4	
12	20ECE417	Wireless Sensor Networks	4	
13	20ECE418	Satellite Communication	4	
14	20ECE420	RFICs	4	
15	20ECE421	Community Radio Technology	4	
16	20ECE602	Sensors and Instrumentation	4	
17	20ECE603	MATLAB for Engineers	4	
18	20ECE604	PCB Designing	4	
19	20ECE608	Internet of Things	4	
20	23ECE108	Analog Communication	4	
21	20ECE108	Electromagnetic Fields and Transmission Lines	4	
22	20ECE110	Digital Signal Processing	4	

23	20ECE207	Analog Communication Laboratory	4
24	20ECE208	Digital Signal Processing Laboratory	4
25	20ECE111	VLSI Design	4
26	20ECE112	Antenna and Microwave Engineering	4
27	20ECE113	Digital Communication	4
28	20ECE209	VLSI Design Laboratory	4
29	20ECE210	Microwave Engineering Laboratory	4
30	20ECE211	Digital Communication Laboratory	4
31	20ECE402	Electronics Packaging and Testing	4
32	20ECE405	Embedded Systems	4
33	20ECE406	Fiber Optic Communication	4
34	20ECE407	Software for Embedded Systems	4
35	20ECE408	Wireless Communication	4
36	20ECE409	FPGA Based System Design	4
37	20ECE410	Cognitive Radio	4
38	20ECE411	Pattern Recognition and its Applications	4
39	20ECE412	Mobile Communication Networks	4
40	20ECE413	RADAR Engineering	4
41	20ECE414	Speech and Audio Processing	4
42	20ECE415	DSP Architecture	4
43	20ME101	Engineering Graphics	4
44	20ME102	Engineering Mechanics	4
45	20ME104	Materials Science and Engineering	4
46	20ME106	Mechanics of Solids	4
47	20ME107	Theory of Machines	4
48	20ME109	Design of Machine Elements	4
49	20ME112	CAD/CAM	4
50	20ME113	Automation and Robotics	4
51	20ME114	Machine Learning for Mechanical Engineers	4
52	20ME401	Production Planning and Control	4
53	20ME402	Computational Fluid Dynamics	4

ECE

MECH

54	20ME403	Engineering Analysis and Computation	4
55	20ME406	Fundamentals of Automotive Engineering	4
56	20ME407	Entrepreneurship and Project Management	4
57	20ME409	Internet of Manufacturing Things	4
58	20ME411	Carbon Footprint Estimation and Reduction	4
59	20ME601	Design Thinking and Product Innovation	4
60	20ME602	Computer Modeling for Mechanical Eng.-I	4
61	20ME603	Computer Modeling for Mechanical Eng.-II	4
62	20ME604	Advanced Manufacturing Technologies	4
63	20CSE101	Programming for Problem Solving (Python)	4
64	20CSE102	C Programming and Data Structures	4
65	20CSE201	C Programming and Data Structures Lab	4
66	20CSE202	Engineering and IT Workshop	4
67	20CSE103	Computer System Architecture	4
68	20CSE104	Data Structures	4
69	20CSE105	Object-Oriented Programming using C++	4
70	20CSE106	Database Management Systems	4
71	20CSE203	Data Structures Laboratory	4
72	20CSE204	Object-Oriented Programming Lab	4
73	20CSE205	Database Management Systems Laboratory	4
74	20CSE107	Operating Systems Fundamentals	4
75	20CSE108	JAVA Programming	4
76	20CSE109	Design and Analysis of Algorithms	4
77	20CSE206	Operating Systems Laboratory	4
78	20CSE207	JAVA Programming Laboratory	4
79	20CSE208	Design and Analysis of Algorithms Lab	4
80	20CSE110	Formal Languages and Automata Theory	4
81	20CSE111	Computer Networks	4
82	20CSE112	Machine Learning	4
83	20CSE114	Internet of Things	4
84	20CSE115	Software Engineering	4

85	20CSE113	Compiler Design	4
86	20CSE401	Cryptography and Network Security	4
87	20CSE402	Real-Time Operating Systems	4
88	20CSE403	Artificial Intelligence	4
89	20CSE404	Web Technologies	4
90	20CSE405	Digital Image Processing	4
91	20CSE406	Data Warehousing and Data Mining	4
92	20CSE407	Data Visualization Techniques	4
93	20CSE408	Malware Analysis	4
94	20CSE409	Network Design and Technologies	4
95	20CSE410	Design Patterns	4
96	20CSE411	DevOps	4
97	20CSE412	Real-Time Systems	4
98	20CSE413	Deep Learning	4
99	20CSE414	Exploratory Data Analysis	4
100	20CSE415	Software Project Management	4
101	20CSE416	Information Retrieval	4
102	20CSE417	Big Data Analytics	4
103	20CSE418	Cyber Security	4
104	20CSE419	Software Quality Assurance	4
105	20CSE420	Human-Computer Interaction	4
106	20CSE421	Database Security	4
107	20CSE422	Software Defined Networks	4
108	20CSE423	Reinforcement Learning	4
109	20CSE601	Web Scripting	4
110	20CSE602	Android Application Development	4
111	20CSE603	Multimedia Computing	4
112	20CSE604	Python for Data Science	4
113	20CSE605	Full Stack Development	4
114	20CSE606	AI Tools, Techniques, and Applications	4
115	20CSE607	Blockchain Architecture	4

CSE

116	20CSE608	NoSQL	4
117	20EEE101	Basic Electrical Engineering	4
118	20EEE201	Electrical Engineering Laboratory	4
119	20EEE102	Electrical Circuit Analysis	4
120	20EEE103	Analog Electronics	4
121	20EEE104	DC Machines and Transformers	4
122	20EEE202	Electrical Circuits and Simulation Lab	4
123	20EEE203	Analog Electronics Laboratory	4
124	20EEE204	DC Machines and Transformers Laboratory	4
125	20EEE105	Electromagnetic Fields	4
126	20EEE106	Digital Electronics	4
127	20EEE107	Induction and Synchronous Machines	4
128	20EEE108	Control Systems	4
129	20EEE205	Digital Electronics Laboratory	4
130	20EEE206	Induction and Synchronous Machines Lab	4
131	20EEE207	Control Systems Laboratory	4
132	20EEE109	Power Systems – I	4
133	20EEE110	Power Electronics	4
134	20EEE111	Micro-controllers and Interfacing	4
135	20EEE208	Power System – I Laboratory	4
136	20EEE209	Micro-controllers and Interfacing Lab	4
137	20EEE112	Measurements and Transducers	4
138	20EEE113	Signals and Systems	4
139	20EEE114	Power Systems – II (Analysis)	4
140	20EEE210	Measurements and Transducers Laboratory	4
141	20EEE211	Power Systems – II Laboratory	4
142	20EEE212	Power Electronics Laboratory	4
143	20EEE401	Modern Control Systems	4
144	20EEE402	Industrial Electrical Systems	4
145	20EEE403	Special Electrical Machines	4
146	20EEE404	Electrical Safety	4

EEE

147	20EEE405	Electrical and Hybrid Vehicles	4
148	20EEE406	Electrical Drives and Control	4
149	20EEE407	Energy Audit and Conservation Management	4
150	20EEE408	Introduction to MEMS	4
151	20EEE409	Switch Gear and Protection	4
152	20EEE410	Utilization of Electrical Energy	4
153	20EEE411	HVDC and FACTS	4
154	20EEE412	Digital Signal Processing	4
155	20EEE413	Smart Power Grid	4
156	20EEE414	Power System Operation and Control	4
157	20EEE415	Wind and Solar Energy Systems	4
158	20EEE416	Power Quality	4
159	20EEE601	Electrical Home	4
160	20EEE602	Data Structures using Python	4
161	20EEE603	Internet of Things	4
162	20EEE604	Programming for Electrical Eng.	4
163	20CSE101	Programming for Problem Solving (Python)	4
164	20CSE102	C Programming and Data Structures	4
165	20CSE201	C Programming and Data Structures Laboratory	4
166	20CSE202	Engineering and IT Workshop	4
167	20MAT111	Probability and Statistics for Computer Science	4
168	20CSD103	Computer System Architecture	4
169	20CSD104	Data Structures using Python	4
170	20CSD105	Object Oriented Programming - JAVA	4
171	20CSD106	Fundamentals of Artificial Intelligence	4
172	20CSD203	Data Structures using Python Laboratory	4
173	20CSD204	Object Oriented Programming - JAVA Laboratory	4
174	20CSD205	Fundamentals of Artificial Intelligence Laboratory	4
175	20CSD601	Web Scripting	4
176	20CSD107	Operating Systems Fundamentals	4
177	20CSD108	Python for Data Science	4

178	20CSD109	Design and Analysis of Algorithms	4
179	20CSD206	Operating Systems Fundamentals Laboratory	4
180	20CSD207	Python for Data Science Laboratory	4
181	20CSD208	Design and Analysis of Algorithms Laboratory	4
182	20ENG601	Corporate Communication	4
183	20CSD110	Database Management System	4
184	20CSD111	Data Visualization	4
185	20CSD112	Machine Learning	4
186	20CSD404	Web Technologies	4
187	20CSD209	Data Visualization Laboratory	4
188	20CSD210	Machine Learning Laboratory	4
189	20CSD604	R Programming for Data Science	4
190	20CSD113	Big Data Analytics	4
191	20CSD114	Deep Learning	4
192	20CSD115	Computer Networks	4
193	20CSD212	Deep Learning Laboratory	4
194	20CSD213	Computer Networks Laboratory	4
195	20CSD605	Full Stack Development	4
196	20CSD409	Software Project Management	4
197	20CSD423	Human Computer Interaction	4
198	0CST101	Digital Design	4
199	20CST102	Data Structures and Algorithms	4
200	20CST103	Database Systems	4
201	20CST201	Digital Design Laboratory	4
202	20CST202	Data Structures and Algorithms Laboratory	4
203	20CST203	Database Systems Laboratory	4
204	20CST104	Computer Architecture	4
205	20CST105	Network and Communication	4
206	20CST106	Object Oriented Programming Using Java	4
207	20CST107	Operating Systems	4
208	20CST204	Network and Communication Laboratory	4

CSE(DS)



209	20CST205	Object Oriented Programming Using Java Laboratory	4
210	20CST206	Operating Systems Laboratory	4
211	20CST108	Automata Theory and Compiler Design	4
212	20CST110	Software Engineering	4
213	20CST208	Software Engineering Laboratory	4
214	20CST111	Cryptography and Network Security	4
215	20CST112	Cloud Computing	4
216	20CST113	Internet and Web Programming	4
217	20CST209	Cryptography and Network Security Laboratory	4
218	20CST210	Cloud Computing Laboratory	4
219	20CST211	Internet and Web Programming Laboratory	4
220	20CST412	Advanced Algorithms	4
221	20CST413	Fundamentals of Fog and Edge Computing	4
222	20CST420	Data Analytics and Visualization	4
223	20CST414	Human Computer Interaction	4
224	22MATP101	Mathematical Foundations for Computer Applications	4
225	22MCAP101	Python Programming	4
226	22MCAP102	Database Management Systems	4
227	22MCAP103	Computer Organization and Architecture	4
228	22MCAP104	Operating Systems	4
229	22MCAP105	Computer Networks	4
230	22ENGP201	Corporate Communication Laboratory	4
231	22MCAP201	Python Programming Laboratory	4
232	22MCAP202	Database Management Systems Laboratory	4
233	22MCAP601	Programming with C++	4
234	22MCAP106	Full Stack Web Development	4
235	22MCAP107	Data Structures and Algorithms	4
236	22MCAP108	Software Engineering	4
237	22MCAP109	Cryptography and Network Security	4
238	22MCAP110	Artificial Intelligence	4
239	22MCAP203	Full Stack Web Development Laboratory	4

CST

240	22MCAP204	Data Structures and Algorithms Laboratory	4
241	22MCAP205	Software Engineering Laboratory	4
242	22MCAP602	Programming with Matlab	4
243	22MCAP111	Mobile Application Development	4
244	22MCAP112	Fundamentals of Data Science	4
245	22MCAP113	Java Programming	4
246	22MCAP206	Mobile Application Development Laboratory	4
247	22MCAP207	Data Science using Python Laboratory	4
248	22MCAP208	Java Programming Laboratory	4
249	22MCAP701	Mini Project	4
250	22MCAP702	Comprehensive Viva	4
251	22MCAP703	Internship/Major Project	4
252	22MCAP401	Machine Learning - Algorithms and Applications	4
253	22MCAP402	IoT Technology and Applications	4
254	22MCAP403	Agile Software Development Process	4
255	22MCAP404	Computer Graphics and Multimedia	4
256	22MCAP405	Image Processing	4
257	22MCAP406	Blockchain Technology	4
258	22MCAP407	XML and Web Services	4
259	22MCAP408	Deep Learning	4
260	22MCAP409	Wireless Sensor Networks	4
261	22MCAP410	Software Quality Assurance and Testing	4
262	22MCAP411	Virtual Reality	4
263	22MCAP412	Video Analytics	4
264	22MCAP413	Software Development using Block chain	4
265	22MCAP414	Advanced Web Development	4
266	22MCAP415	Reinforcement Learning	4
267	22MCAP416	Privacy and Security in IoT	4
268	22MCAP417	Software Project Management	4
269	22MCAP418	Generative AI	4
270	22MCAP419	Computer Vision	4

MCA

271	22MCAP420	Cyber Security using Blockchain	4
272	22MCAP421	.Net Framework and C#	4
273	22MBAP301	Management and Organizational Behavior	4
274	22MBAP302	Design Thinking	4
275	22MBAP303	Management Information System	4
276	22MBAP304	E-Commerce and Digital Markets	4
277	22MBAP305	Entrepreneurship Development and Project	4