

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous)

Kandlakoya, Hyderabad – 501 401

B. Tech (AI & DS) Course Structure-21, Regulation-18

Semester –I							
Course Code	Category	Course Title	Hours/Week			Credits	Total Contact Hours/Week
			L	T	P	C	
A30004	BSC	Linear Algebra and Calculus	3	1	0	4	4
A30009	BSC	Applied Physics	3	1	0	4	4
A30501	ESC	Programming for Problem Solving	3	0	0	3	3
A30313	ESC	Engineering Drawing	1	0	3	2.5	4
A30023	BSC	Applied Physics Lab	0	0	3	1.5	3
A30502	ESC	C Programming Lab	0	0	3	1.5	3
A30505	ESC	Basic Internet of Things Lab	0	0	2	1	2
A30020	HSMC	Introduction to Social Innovation	0	0	2	1	2
Total			10	2	13	18.5	25

Semester –II							
Course Code	Category	Course Title	Hours /Week			Credits	Total Contact Hours/Week
			L	T	P	C	
A30005	BSC	Ordinary Differential Equations and Multivariable Calculus	3	1	0	4	4
A30001	HSMC	English	2	0	0	2	2
A30011	BSC	Engineering Chemistry	3	0	0	3	3
A30503	ESC	Data Structures & Algorithms	3	0	0	3	3
A30002	HSMC	English Language Communication Skills Lab	0	0	3	1.5	3
A30012	BSC	Engineering Chemistry Lab	0	0	3	1.5	3
A30504	ESC	Data Structures & Algorithms Lab	0	0	3	1.5	3
A30314	ESC	Engineering Workshop	0	0	3	1.5	3
A30019	BSC	Engineering Exploration &Practice	0	0	3	1.5	3
Total			11	1	15	19.5	27
Total Credits I year: 38							

Semester –III							
Course Code	Category	Course Title	Hours / Week			Credits	Total Contact Hours/ Week
			L	T	P		
A30007	BSC	Numerical Techniques & Probability Distributions	3	1	0	4	4
A30516	PCC	Operating Systems	3	0	0	3	3
A30513	PCC	Computer Organization & Architecture	3	1	0	4	4
A36201	PCC	Object Oriented Programming through JAVA	3	0	0	3	3
A30509	PCC	Database Management systems	3	1	0	4	4
A30510	PCC	Database Management systems lab	0	0	3	1.5	3
A37301	PCC	Operating Systems Lab	0	0	3	1.5	3
A36202	PCC	JAVA Lab	0	0	3	1.5	3
A30016	MC	Gender Sensitization	0	0	2	0	2
Total			15	3	11	22.5	29
Semester –IV							
Course Code	Category	Course Title	Hours / Week			Credits	Total Contact Hours/ Week
			L	T	P		
A37302	PCC	Mathematics for Machine Learning	3	0	0	3	3
A30511	PCC	Design & Analysis of Algorithms	3	1	0	4	4
A30228	ESC	Basic Electrical Engineering	3	0	0	3	3
A37303	PCC	Artificial Intelligence	4	0	0	4	4
A37305	PCC	Python Programming lab	0	0	3	1.5	3
A30229	PCC	Basic Electrical Engineering Lab	0	0	3	1.5	3
A37304	PCC	Artificial Intelligence lab	0	0	3	1.5	3
A30021	HSMC	Social Innovation in Practice	0	0	2	1	2
A30015	MC	Soft Skills & Professional Ethics	0	0	2	0	2
Total			13	1	13	19.5	27
Total Credits II year: 42							

Semester –V							
Course Code	Category	Course Title	Hours/w eek			Credits	Total Contact Hours/ Week
			L	T	P		
A3XXXX	PCC	Professional Core Course	4	0	0	4	4
A3XXXX	PCC	Professional Core Course	4	0	0	4	4
A3XXXX	PCC	Professional Core Course	3	0	0	3	3
A3XXXX	PCC	Professional Core Course	3	0	0	3	3
PE	PEC	Professional Elective-I	3	0	0	3	3
A3XXXX	PCC	Professional Core Course lab	0	0	3	1.5	3
A3XXXX	PCC	Professional Core Course lab	0	0	3	1.5	3
A30003	HSMC	Advanced English Communication Skills Lab	0	0	3	1.5	3
A30017	MC	Indian Constitution	2	0	0	0	2
A30018		Essence of Indian Traditional Knowledge					
Total			19	0	9	21.5	28
A3XXXX	MC	Mini Project-I	During Summer Vacations / Non-Credit				
A3XXXX		Summer Internship-I					
Semester –VI							
Course Code	Category	Course Title	Hours/Week			Credits	Total Contact Hours/Week
			L	T	P		
A3XXXX	PCC	Professional Core Course	4	0	0	4	4
A3XXXX	PCC	Professional Core Course	4	0	0	4	4
A3XXXX	PCC	Professional Core Course	4	0	0	4	4
PE	PEC	Professional Elective-II	3	0	0	3	3
A30013	HSM C	Business Management & Financial Analysis	4	0	0	4	4
A3XXXX	PCC	Professional Core Course Lab	0	0	3	1.5	3
A3XXXX	PROJ	Technical Seminar-I	2	0	0	2	2
A30014	MC	Environmental Sciences	2	0	0	0	2
A30556	MC	Cyber Security	2	0	0	0	2
A30022	MC	NCC/NSS	0	0	2	0	2
Total			25	0	5	22.5	30
Total Credits III Year: 44							

Semester –VII							
Course Code	Category	Course Title	Hours / Week			Credits	Total Contact Hours/week
			L	T	P		
PE	PEC	Professional Elective-III	3	0	0	3	3
	PEC	Professional Elective-IV	3	0	0	3	3
	PEC	Professional Elective-V	3	0	0	3	3
OE	OEC	Open Elective-I	3	0	0	3	3
	OEC	Open Elective-II	3	0	0	3	3
A3XXXX	PROJ	Major Project Phase-I	0	0	6	3	6
Total			15	0	6	18	21
A3XXXX	MC	Mini Project-II	During Summer Vacations / Non-Credit				
A3XXXX		Summer Internship-II					

Semester –VIII							
Course Code	Category	Course Title	Hours / Week			Credits	Total Contact Hours /week
			L	T	P		
PE	PEC	Professional Elective-VI	3	0	0	3	3
OE	OEC	Open Elective-III	3	0	0	3	3
	OEC	Open Elective-IV	3	0	0	3	3
A3XXXX	PROJ	Technical Seminar-II	2	0	0	2	2
A3XXXX	PROJ	Major Project Phase- II	0	0	14	7	14
Total			11	0	14	18	25
Total Credits IV Year: 36							

Open Electives		
Sl.No	Subject Code	Name of the Subject
1	A30554	Java Programming
2	A30531	Python Programming
3	A30555	Introduction to Database Management Systems
4	A30537	Data Analytics with R
5	A30557	Web Programming
6	A30542	Cloud Computing
7	A30538	Deep Learning
8	A30559	Introduction to Data Science
9	A30471	Principles of Electronic Communications
10	A30472	Basic Electronics Engineering
11	A30383	Fundamentals of Engineering Materials
12	A30377	Basics of Thermodynamics
13	A30258	Basics of Power Electronics & Drives
14	A30252	Power Generation Systems
15	A30160	Disaster Management and Mitigation
16	A30161	Remote Sensing and GIS
17	C30161	Logistics and Supply Chain Management
18	C30162	Knowledge Management
19	A30473	Image Processing
20	A30474	Digital Electronics
21	A30357	Fundamentals of Manufacturing Processes
22	A30379	Fundamentals of Automobile Engineering
23	A30259	Electrical & Hybrid Vehicles
24	A30260	Electrical Safety

25	A30162	Green Buildings
26	A30163	Air Pollution and Control
27	C30163	Management of Industrial Relations
28	C30164	Entrepreneurship
29	A30475	Data Communications
30	A30476	Microcontrollers & Applications
31	A30382	Fundamentals of Mechanical Engineering
32	A30378	Waste to Energy
33	A30253	Fuel Cell Technology
34	A30255	Energy Efficiency in Electrical Utilities
35	A30164	Basics of Civil Engineering
36	A30165	Sustainability Concepts in Civil Engineering
37	C30165	Basics of Insurance & Taxation
38	C30166	Business Ethics & Corporate Governance
39	A30477	Fundamentals of Embedded Systems
40	A30478	Sensors & Transducers
41	A30358	Industrial Safety Engineering
42	A30360	Work System Design
43	A30256	Energy Audit & Conservation
44	A30257	Nano Technology
45	A30166	Environmental Protection and Management
46	A30167	Alternate Building Materials
47	C30167	Marketing Management
48	C30168	Intellectual Property Rights

Composition Table

Semester	BS	ES	HS&M	PC	PE	OE	Project	Total Credits
I	9.5	8	1					18.5
II	10	6	3.5					19.5
III	4			18.5				22.5
IV		3	1	15.5				19.5
V			1.5	17	3			21.5
VI			4	13.5	3		2	22.5
VII					9	6	3	18
VIII					3	6	9	18
Total	23.5	18.5	10	64	18	12	14	160
%C	16.5%	11.5%	6.25%	40%	11.25%	7.5%	8.75%	
AICTE Credits	25	24	12	48	18	18	15	

BS: Basic Sciences**ES: Engineering Sciences****HS&M: Humanities, Sciences & Management****PC: Professional Core****PE: Professional Elective****OE: Open Elective**