SAMSKRUTI COLLEGE OF ENGINEERING AND TECHNOLOGY
(UGC – AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade
Kondapur, Ghatkesar, Medchal-Malkajgiri Dist., - 501 301

B.Tech - Computer Science and Engineering

Course Structure (SCET - R22)

Applicable From 2023-24 Admitted Batch

Structure Breakup

S. No	Category	Breakup of credits (Total 160 credits)
1	Humanities and Social Sciences including Management Courses (HSMC)	10
2	Basic Sciences Courses(BS)	25.5
3	Engineering Sciences Courses including Workshop, Drawing basics of Electrical/Mechanical/Computer etc.(ES)	20.5
4	Professional Core Courses(PC)	57
5	Professional Electives(PE)	20
6	Open Electives(OE)	9
7	Project work, Seminar and Internship in Industry or elsewhere (PS)	18
8	Mandatory Courses	-
TOTAL		**160**

B.Tech - Computer Science and Engineering
Course Structure (SCET - R22)
Applicable From 2022-23 Admitted Batch

I YEAR I SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	22MA101BS	Matrices and Calculus	BS	3	1	0	4	40	60	100
2	22CH102BS	Engineering Chemistry	BS	3	1	0	4	40	60	100
3	22CS103ES	Programming for Problem Solving	ES	3	0	0	3	40	60	100
4	22EE104ES	Basic Electrical Engineering	ES	2	0	0	2	40	60	100
5	22ME105ES	Computer Aided Engineering Graphics	ES	1	0	4	3	40	60	100
6	22CS106ES	Elements of Computer Science & Engineering	PC	0	0	2	1	50	-	50
7	22CH107BS	Engineering Chemistry Laboratory	BS	0	0	2	1	40	60	100
8	22CS108ES	Programming for Problem Solving Laboratory	ES	0	0	2	1	40	60	100
9	22EE109ES	Basic Electrical Engineering Laboratory	ES	0	0	2	1	40	60	100
		Induction Programme	-	-	-	-	-	-	-	-
TOTAL				**12**	**2**	**12**	**20**	**370**	**480**	**850**

I YEAR II SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	22MA201BS	Ordinary Differential Equations and Vector Calculus	BS	3	1	0	4	40	60	100
2	22PH202BS	Applied Physics	BS	3	1	0	4	40	60	100
3	22ME203ES	Engineering Workshop	ES	0	1	3	2.5	40	60	100
4	22EN204HS	English for Skill Enhancement	HS	2	0	0	2	40	60	100
5	22EC205ES	Electronic Devices and Circuits	ES	2	0	0	2	40	60	100
6	22CS206ES	Python Programming Laboratory	ES	0	1	2	2	40	60	100
7	22PH207BS	Applied Physics Laboratory	BS	0	0	3	1.5	40	60	100
8	22EN208HS	English Language and Communication Skills Laboratory	HS	0	0	2	1	40	60	100
9	22CS209ES	IT Workshop	ES	0	0	2	1	40	60	100
10	22*MC210	Environmental Science	*MC	3	0	0	0	-	-	-
TOTAL				**13**	**4**	**12**	**20**	**360**	**540**	**900**

***MC-Satisfactory/Unsatisfactory**

II YEAR I SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	22CS301PC	Fundamentals of Digital Electronics	ES	3	0	0	3	40	60	100
2	22CS302PC	Data Structures	PC	3	0	0	3	40	60	100
3	22CS303PC	Computer Oriented Statistical Methods	BS	3	1	0	4	40	60	100
4	22CS304PC	Computer Organization and Architecture	PC	3	0	0	3	40	60	100
5	22CS305PC	Object Oriented Programming through Java	PC	3	0	0	3	40	60	100
6	22CS306PC	Data Structures Lab	PC	0	0	3	1.5	40	60	100
7	22CS307PC	Object Oriented Programming through Java Lab	PC	0	0	3	1.5	40	60	100
8	22CS308PC	Data visualization- R Programming/ Power BI	PC	0	0	2	1	40	60	100
9	22*MC309	Gender Sensitization Lab	*MC	0	0	2	0	-	-	-
TOTAL				**15**	**1**	**10**	**20**	**320**	**480**	**800**

II YEAR II SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	22CS401PC	Discrete Mathematics	BS	3	0	0	3	40	60	100
2	22SM402MS	Business Economics & Financial Analysis	HS	3	0	0	3	40	60	100
3	22CS403PC	Operating Systems	PC	3	0	0	3	40	60	100
4	22CS404PC	Database Management Systems	PC	3	0	0	3	40	60	100
5	22CS405PC	Software Engineering	PC	3	0	0	3	40	60	100
6	22CS406PC	Operating Systems Lab	PC	0	0	2	1	40	60	100
7	22CS407PC	Database Management Systems Lab	PC	0	0	2	1	40	60	100
8	22CS408PC	Real-time Research Project / Societal Related Project	PS	0	0	4	2	50	-	50
9	22CS409PC	Node JS/ React JS/ Django	PC	0	0	2	1	40	60	100
10	22*MC410	Constitution of India	*MC	3	0	0	0	-	-	-
TOTAL				**18**	**0**	**10**	**20**	**370**	**480**	**850**

***MC-Satisfactory/Unsatisfactory**

III YEAR I SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	185BT	Design and Analysis of Algorithms	PC	3	1	0	4	40	60	100
2	185BB	Computer Networks	PC	3	0	0	3	40	60	100
3	185BW	DevOps	PC	3	0	0	3	40	60	100
4		Professional Elective-I	PE	3	0	0	3	40	60	100
5		Professional Elective -II	PE	3	0	0	3	40	60	100
6	18506	Computer Networks Lab	PC	0	0	2	1	40	60	100
7	18508	DevOps Lab	PC	0	0	2	1	40	60	100
8	18502	Advanced English Communication Skills Lab	HS	0	0	2	1	40	60	100
9	18530	UI design- Flutter	PC	0	0	2	1	40	60	100
10	18539	Intellectual Property Rights	*MC	3	0	0	0	100	-	100
TOTAL				**18**	**1**	**8**	**20**	**460**	**540**	**1000**

III YEAR II SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	186CY	Machine Learning	PC	3	0	0	3	40	60	100
2	186CB	Formal Languages and Automata Theory	PC	3	0	0	3	40	60	100
3	186AK	Artificial Intelligence	PC	3	0	0	3	40	60	100
4		Professional Elective – III	PE	3	0	0	3	40	60	100
5		Open Elective-I	OE	3	0	0	3	40	60	100
6	18631	Machine Learning Lab	PC	0	0	2	1	40	60	100
7	18607	Artificial Intelligence Laboratory	PC	0	0	2	1	40	60	100
8		Professional Elective-III Lab	PE	0	0	2	1	40	60	100
9	18671/ 18672/ 18673	Industrial Oriented Mini Project/ Internship/ Skill Development Course (Big data-Spark)	PS	0	0	4	2	-	100	100
10	18663	Environmental Science	**MC	3	0	0	0	100	-	100
TOTAL				**18**	**0**	**8**	**20**	**420**	**580**	**1000**

***MC-Satisfactory/Unsatisfactory**

****MC-Environmental Science in III Yr II Sem Should be Registered by Lateral Entry Students Only.**

IV YEAR I SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	187BW	Cryptography and Network Security	PC	3	0	0	3	40	60	100
2	187BR	Compiler Design	PC	3	0	0	3	40	60	100
3		Professional Elective -IV	PE	3	0	0	3	40	60	100
4		Professional Elective -V	PE	3	0	0	3	40	60	100
5		Open Elective - II	OE	3	0	0	3	40	60	100
6	18709	Cryptography and Network Security Lab	PC	0	0	2	1	40	60	100
7	18708	Compiler Design Lab	PC	0	0	2	1	40	60	100
8	18739	Project Stage - I	PS	0	0	6	3	100	-	100
TOTAL				**15**	**0**	**10**	**20**	**380**	**420**	**800**

IV YEAR II SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	188DJ	Organizational Behavior	HS	3	0	0	3	40	60	100
2		Professional Elective – VI	PE	3	0	0	3	40	60	100
3		Open Elective – III	OE	3	0	0	3	40	60	100
4	18805	Project Stage – II including Seminar	PS	0	0	22	11	40	60	100
TOTAL				**9**	**0**	**22**	**20**	**160**	**240**	**400**

Professional Elective (PE) Courses

PE-I: Professional Elective - I

S. No.	Course Code	Course Title
1	185EB	Quantum Computing
2	185AB	Advanced Computer Architecture
3	185BH	Data Analytics
4	185CT	Image Processing
5	185DZ	Principles of Programming Languages

PE-II: Professional Elective – II

S. No.	Course Code	Course Title
1	185BA	Computer Graphics
2	185CC	Embedded Systems
3	185CU	Information Retrieval Systems
4	185BX	Distributed Databases
5	185DT	Natural Language Processing

PE-III: Professional Elective – III

S. No.	Course Code	Course Title
1	186CD	Full Stack Development
2	186CN	Internet of Things
3	186EF	Scripting Languages
4	186DF	Mobile Application Development
5	186EK	Software Testing Methodologies

PE-III Lab: Professional Elective – III Lab

S. No.	Course Code	Course Title
1	18650	Full Stack Development Lab
2	18651	Internet of Things Lab
3	18661	Scripting Languages Lab
4	18655	Mobile Application Development Lab
5	18662	Software Testing Methodologies Lab

 # Courses in PE - III and PE - III Lab must be in 1-1 correspondence.

PE-IV: Professional Elective – IV

S. No.	Course Code	Course Title
1	187AC	AD-HOC & SENSOR NETWORKS
2	187BN	CLOUD COMPUTING
3	187BX	CYBER SECURITY
4	187DJ	GRAPH THEORY
5	187HH	SOFT COMPUTING

PE-V: Professional Elective – V

S. No.	Course Code	Course Title
1	187AD	ADVANCED ALGORITHMS
2	187AK	AGILE METHODOLOGY
3	187BK	BLOCKCHAIN TECHNOLOGY
4	187GU	ROBOTIC PROCESS AUTOMATION
5	187HJ	SOFTWARE PROCESS & PROJECT MANAGEMENT

PE-VI: Professional Elective – VI

S. No.	Course Code	Course Title
1	188AY	COMPUTATIONAL COMPLEXITY
2	188BD	CYBER FORENSICS
3	188BM	DEEP LEARNING
4	188BR	DISTRIBUTED SYSTEMS
5	188CF	HUMAN COMPUTER INTERACTION

Open Elective (OE) Courses

S. No	Open Elective	Course Code	Course Title
1	Open Elective- I	186FG	Data Structures
		186FH	Database Management Systems
2	Open Elective- II	187KN	Operating Systems
		187KY	Software Engineering
3	Open Elective- III	188FD	Algorithms Design and Analysis
		188GF	Introduction to Computer Networks

Note: *Open Elective courses syllabus is provided in a separate document. Student should take open electives from the list of offered by other departments/branches only.*