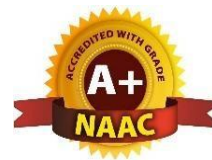**SIDDHARTHA INSTITUTE OF TECHNOLOGY & SCIENCES**
(UGC – AUTONOMOUS)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A+' Grade
Narapally, Korremula Road, Ghatkesar, Medchal-Malkajgiri(Dist)-501 301

M.Tech – VLSI Design

Course Structure (SITS - R22)
Applicable From 2022-23 Admitted Batch
Structure Breakup

S. No	Category	Breakup of credits (Total 68 credits)
1	Programme Core (PC)	20
2	Professional Elective (PE)	15
3	Open Elective (OE)	3
4	Mandatory Credit Course (MCC)	2
5	Project Work / Seminars (PS)	28
6	Audit Course (AC)	-
Total Credits		**68**

M.Tech – VLSI Design

Course Structure (SITS - 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 (EIE)	Total
1	2215701	Digital System Design with FPGAs	PC	3	0	0	3	40	60	100
2	2215702	CMOS Analog IC Design	PC	3	0	0	3	40	60	100
3		Professional Elective - I	PE	3	0	0	3	40	60	100
4		Professional Elective - II	PE	3	0	0	3	40	60	100
5	2215703	Digital System Design with FPGAs Lab	PC	0	0	4	2	40	60	100
6	2215704	CMOS Analog IC Design Lab	PC	0	0	4	2	40	60	100
7	2215705	Research Methodology & IPR	MCC	2	0	0	2	40	60	100
8		Audit Course – I	*AC-I	2	0	0	0	-	-	-
		TOTAL		**16**	**0**	**8**	**18**			

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 (EIE)	Total
1	2225701	VLSI Advanced Physical Design	PC	3	0	0	3	40	60	100
2	2225702	System Verilog Test Benches using UVM	PC	3	0	0	3	40	60	100
3		Professional Elective - III	PE	3	0	0	3	40	60	100
4		Professional Elective - IV	PE	3	0	0	3	40	60	100
5	2225703	VLSI Advanced Physical Design Lab	PC	0	0	4	2	40	60	100
6	2225704	System Verilog Test Benches using UVM Lab	PC	0	0	4	2	40	60	100
7	2225705	Mini Project with Seminar	PS	0	0	4	2	100	-	100
8		Audit Course – II	*AC-II	2	0	0	0	-	-	-
		TOTAL		**14**	**0**	**12**	**18**	**340**	**360**	**700**

***Non-credit Audit Courses** will not carry any credits.

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		Professional Elective - V	PE	3	0	0	3	40	60	100
2		Open Elective	OE	3	0	0	3	40	60	100
3	2235701	Dissertation Work Review-II	PS	0	0	12	6	100	0	100
		TOTAL		**6**	**0**	**12**	**12**	**180**	**120**	**300**

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	2245701	Dissertation Work Review-III	PS	0	0	12	6	100	0	100
2	2245702	Dissertation Viva - Voce	PS	0	0	28	14	0	100	100
		TOTAL		**0**	**0**	**40**	**20**	**100**	**100**	**200**

Professional Elective (PE) Courses

Professional Elective-I

S. No.	Course Code	Course Title
1	2215706	Pattern Recognition and Machine Learning
2	2215707	CMOS Mixed Signal Design
3	2215708	Memory Technologies

Professional Elective-II

S. No.	Course Code	Course Title
1	2215709	Communication Buses & Interfaces
2	2215710	ARM Microcontrollers
3	2215711	Embedded Real Time Operating System

Professional Elective-III

S. No.	Course Code	Course Title
1	2225706	IoT Architectures and System Design
2	2225707	SoC Design
3	2225708	Design for Testability

Professional Elective-IV

S. No.	Course Code	Course Title
1	2225709	Device Modeling
2	2225710	RF IC Design
3	2225711	Hardware and Software Co-Design

Professional Elective-V

S. No.	Course Code	Course Title
1	2235702	Advanced Computer Architecture
2	2235703	Nanomaterials & Nanotechnology
3	2235704	Hardware Security

Audit Courses (AC) – I & II

S. No.	Course Code	Course
1	22XAC01	English for Research Paper Writing and its Significance
2	22XAC02	Disaster Management
3	22XAC03	Sanskrit for Technical Knowledge
4	22XAC04	Value Education
5	22XAC05	Constitution of India
6	22XAC06	Pedagogy Studies
7	22XAC07	Stress Management by Yoga
8	22XAC08	Personality Development Through Life Enlightenment Skills

Open Elective (OE) Courses for ECE

S. No.	Course Code	Course Title
1	223OE01	Business Analytics
2	223OE02	Industrial Safety
3	223OE03	Operations Research
4	223OE04	Cost Management of Engineering Projects
5	223OE05	Composite Materials

Note: For Audit Courses 'X' indicates 1 or 2 Sem