



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 – Embedded Systems

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 – Embedded Systems**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	2215501	Digital System Design with FPGAs	PC	3	0	0	3	40	60	100
2	2215502	System Design with Embedded Linux	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	2215503	Digital system Design with FPGAs Lab	PC	0	0	4	2	40	60	100
6	2215504	System Design with Embedded Linux Lab	PC	0	0	4	2	40	60	100
7	2215505	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	2225501	ARM Microcontrollers	PC	3	0	0	3	40	60	100
2	2225502	Digital Control Systems	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	2225503	ARM Microcontrollers Lab	PC	0	0	4	2	40	60	100
6	2225504	Digital Control Systems Lab	PC	0	0	4	2	40	60	100
7	2225505	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	2235501	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	2245501	Dissertation Work Review-III	PS	0	0	12	6	100	0	100
2	2245502	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	2215506	CMOS VLSI Design
2	2215507	Pattern Recognition and Machine Learning
3	2215508	Wireless Sensor Networks

Professional Elective-II

S. No.	Course Code	Course Title
1	2215509	Communications Buses & Interfaces
2	2215510	Advanced Computer Architecture
3	2215511	CMOS Analog IC Design

Professional Elective-III

S. No.	Course Code	Course Title
1	2225506	IoT Architectures and System Design
2	2225507	Design for Testability
3	2225508	SoC Design

Professional Elective-IV

S. No.	Course Code	Course Title
1	2225509	Hardware and Software Co-Design
2	2225510	Secure Networks
3	2225511	Physical Design Automation

Professional Elective-V

S. No.	Course Code	Course Title
1	2235502	Embedded Networks
2	2235503	CMOS Mixed Signal Design
3	2235504	Human -Machine Interface

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