

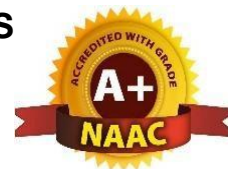


## SIDDHARTHA INSTITUTE OF TECHNOLOGY & SCIENCES (UGC – AUTONOMOUS)

(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



### B.Tech - Civil Engineering

#### Course Structure (SITS - R22)

Applicable From 2022-23 Admitted Batch

#### Structure Breakup

S. No	Category	Breakup of credits (Total 160 credits)
1	Humanities and Social Sciences including Management Courses (HSMC)	7
2	Basic Sciences Courses(BS)	18.5
3	Engineering Sciences Courses including Workshop, Drawing basics of Electrical/Mechanical/Computer etc.(ES)	22.5
4	Professional Core Courses(PC)	67
5	Professional Electives(PE)	18
6	Open Electives(OE)	9
7	Project work, Seminar and Internship in Industry or elsewhere (PS)	18
8	Mandatory Courses	-
<b>TOTAL</b>		<b>160</b>

**B.Tech - Civil Engineering**  
**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 (SEE)	Total
1	2210001	Matrices and Calculus	BS	3	1	0	4	40	60	100
2	2210009	Applied Physics	BS	3	1	0	4	40	60	100
3	2210501	C Programming and Data Structures	ES	3	0	0	3	40	60	100
4	2210302	Engineering Workshop	ES	0	1	3	2.5	40	60	100
5	2210011	English for Skill Enhancement	HS	2	0	0	2	40	60	100
6	2210171	Elements of Civil Engineering	PC	0	0	2	1	50	-	50
7	2210071	Applied Physics Laboratory	BS	0	0	3	1.5	40	60	100
8	2210571	C Programming and Data Structures Laboratory	ES	0	0	2	1	40	60	100
9	2210073	English Language and Communication Skills Laboratory	HS	0	0	2	1	40	60	100
10	221MC01	Environmental Science	*MC	3	0	0	0	-	-	-
		Induction Programme	-	-	-	-	-	-	-	-
<b>TOTAL</b>				<b>14</b>	<b>3</b>	<b>12</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>

**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	2220002	Ordinary Differential Equations and Vector Calculus	BS	3	1	0	4	40	60	100
2	2220010	Engineering Chemistry	BS	3	1	0	4	40	60	100
3	2220301	Computer Aided Engineering Graphics	ES	1	0	4	3	40	60	100
4	2220303	Applied Mechanics	ES	3	0	0	3	40	60	100
5	2220126	Surveying	PC	2	0	0	2	40	60	100
6	2220574	Python Programming Laboratory	ES	0	1	2	2	40	60	100
7	2220072	Engineering Chemistry Laboratory	BS	0	0	2	1	40	60	100
8	2220172	Surveying Laboratory - I	PC	0	0	2	1	40	60	100
<b>TOTAL</b>				<b>12</b>	<b>3</b>	<b>10</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>

\*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	2230006	Probability and Statistics	ES	3	1	0	4	40	60	100
2	2230127	Building Materials, Construction and Planning	PC	3	0	0	3	40	60	100
3	2230128	Engineering Geology	PC	3	0	0	3	40	60	100
4	2230129	Strength of Materials – I	PC	3	0	0	3	40	60	100
5	2230130	Fluid Mechanics	PC	3	0	0	3	40	60	100
6	2230173	Surveying Laboratory - II	PC	0	1	2	2	40	60	100
7	2230174	Strength of Materials Laboratory	PC	0	0	2	1	40	60	100
8	2230175	Computer Aided Drafting Laboratory	PC	0	0	2	1	40	60	100
9	223MC02	Constitution of India	*MC	3	0	0	0	-	-	-
<b>TOTAL</b>				<b>18</b>	<b>2</b>	<b>6</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>

**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	2240201	Basic Electrical and Electronics Engineering	ES	3	0	0	3	40	60	100
2	2240131	Concrete Technology	PC	3	0	0	3	40	60	100
3	2240132	Strength of Materials – II	PC	3	0	0	3	40	60	100
4	2240133	Hydraulics and Hydraulics Machinery	PC	3	0	0	3	40	60	100
5	2240134	Structural Analysis - I	PC	3	0	0	3	40	60	100
6	2240176	Fluid Mechanics and Hydraulics Machinery Laboratory	PC	0	0	2	1	40	60	100
7	2240271	Basic Electrical and Electronics Engineering Laboratory	ES	0	0	2	1	40	60	100
8	2240177	Concrete Technology Laboratory	PC	0	0	2	1	40	60	100
9	224PS01	Real-time Research Project / Field-Based Project	PS	0	0	4	2	50	-	50
10	224MC03	Gender Sensitization Laboratory	*MC	0	0	2	0	-	-	-
<b>TOTAL</b>				<b>15</b>	<b>0</b>	<b>12</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>

**\*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	2250135	Structural Analysis - II	PC	3	0	0	3	40	60	100
2	2250136	Geotechnical Engineering	PC	3	0	0	3	40	60	100
3	2250137	Structural Engineering -I (RCC)	PC	3	0	0	3	40	60	100
4	2250012	Business Economics & Financial Analysis	HS	3	0	0	3	40	60	100
5	2250138	Transportation Engineering	PC	3	0	0	3	40	60	100
6	2250139	Water Resources Engineering - I	PC	3	0	0	3	40	60	100
7	2250178	Transportation Engineering Laboratory	PC	0	0	2	1	40	60	100
8	2250179	Geotechnical Engineering Laboratory	PC	0	0	2	1	40	60	100
9	225MC04	Intellectual Property Rights	*MC	3	0	0	0	-	-	-
<b>TOTAL</b>				<b>21</b>	<b>0</b>	<b>4</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>

### 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	2260140	Environmental Engineering	PC	3	0	0	3	40	60	100
2	2260141	Foundation Engineering	PC	3	0	0	3	40	60	100
3	2260142	Structural Engineering -II (Steel Structures)	PC	3	0	0	3	40	60	100
4		Professional Elective – I	PE	3	0	0	3	40	60	100
5		Open Elective - I	OE	3	0	0	3	40	60	100
6	2260180	Environmental Engineering Laboratory	PC	0	0	2	1	40	60	100
7	2260181	Computer Aided Design Laboratory	PC	0	0	2	1	40	60	100
8	2260074	Advanced English Communication Skills Laboratory	HS	0	0	2	1	40	60	100
9	226PS02	Industry Oriented Mini Project / Internship	PS	0	0	4	2	-	100	100
10	226MC01	Environmental Science	*MC	3	0	0	0	-	-	-
<b>TOTAL</b>				<b>18</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>320</b>	<b>580</b>	<b>900</b>

\*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	2270143	Quantity Survey & Valuation	PC	2	0	0	2	40	60	100
2	2270017	Project Management	PC	2	0	0	2	40	60	100
3		Professional Elective – II	PE	3	0	0	3	40	60	100
4		Professional Elective – III	PE	3	0	0	3	40	60	100
5		Professional Elective - IV	PE	3	0	0	3	40	60	100
6		Open Elective - II	OE	3	0	0	3	40	60	100
7	2270182	Civil Engineering Software Laboratory	PC	0	0	2	1	40	60	100
8	227PS03	Project Stage - I	PS	0	0	6	3	100	-	100
<b>TOTAL</b>				<b>16</b>	<b>0</b>	<b>8</b>	<b>20</b>	<b>380</b>	<b>420</b>	<b>800</b>

**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		Professional Elective – V	PE	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	228PS04	Project Stage – II including seminar	PS	0	0	22	11	40	60	100
<b>TOTAL</b>				<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

**\*MC-Satisfactory/Unsatisfactory**

**Professional Elective (PE) Courses****PE-I: Professional Elective - I**

S. No.	Course Code	Course Title
1	22601A1	Green Building Technologies
2	22601A2	Geomatic Applications in Civil Engineering
3	22601A3	Smart Cities Planning and Management

**PE-II: Professional Elective - II**

S. No.	Course Code	Course Title
1	22701A4	Prestressed Concrete
2	22701A5	Elements of Earthquake Engineering
3	22701A6	Advanced Structural Analysis

**PE-III: Professional Elective - III**

S. No.	Course Code	Course Title
1	22701A7	Earth Retaining Structures
2	22701A8	Ground Improvement Techniques
3	22701A9	Stability Analysis of Slopes

**PE-IV: Professional Elective - IV**

S. No.	Course Code	Course Title
1	22701B1	Design of Hydraulic Structures
2	22701B2	Advanced Water Resources Engineering
3	22701B3	Ground Water Hydrology

**PE-V: Professional Elective - V**

S. No.	Course Code	Course Title
1	22801B4	Solid Waste Management
2	22801B5	Environmental Impact Assessment for Civil Engineers
3	22801B6	Air pollution

**PE-VI: Professional Elective - VI**

S. No.	Course Code	Course Title
1	22801B7	Airports, Railways and Waterways
2	22801B8	Pavement Asset Management
3	22801B9	Pavement Analysis & Design

**Open Elective (OE) Courses**

S. No	Open Elective	Course Code	Course Title
1	Open Elective- I	22601G1	Disaster Preparedness & Planning Management
		22601G2	Building Management Systems
		22601G3	Environmental Impact Assessment
		22601G4	Hydrogeology
2	Open Elective–II	22701G5	Remote Sensing & Geographical Information Systems
		22701G6	Sustainable Infrastructure Development
		22701G7	Solid Waste Management
		22701G8	Smart Cities
3	Open Elective-III	22801G9	Energy Efficient Buildings
		22801H1	Multi Criterion Decision Making
		22801H2	Environmental Pollution

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