

**COURSE STRUCTURE  
AND  
DETAILED SYLLABUS  
for**

**B.Tech Four Year Degree Course**

**in**

**CIVIL ENGINEERING**

**(CE)**

(Applicable for the batches admitted from 2015-2016)



**SREENIDHI INSTITUTE OF SCIENCE AND TECHNOLOGY**

**(An Autonomous Institution approved by UGC and affiliated to JNTUH)**

**Yamnampet, Ghatkesar, R.R.District-501 301.**

**SREENIDHI INSTITUTE OF SCIENCE and TECHNOLOGY (AUTONOMOUS)**  
**B.Tech. (Civil Engineering)**

**CBCS**

**COURSE STRUCTURE AND SYLLABUS (2015-2016)**

**I Year – I Semester**

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5H101	English-I	2	---	---	2	25	75
2	5H111	Engineering Mathematics-I	3	1	---	3	25	75
3	5H121	Engineering Physics-I	3	1	---	3	25	75
4	5H131	Engineering Chemistry-I	2	1	---	2	25	75
5	5F101	Computer Programming	3	1	---	3	25	75
6	5B101	Engineering Drawing-I	1	1	4	3	25	75
7	5H171	English Language and Communication Skills Lab	---	---	2	1	25	75
8	5H181	Engineering Physics Lab – I	---	---	2/2	1	25	75
9	5H186	Engineering Chemistry Lab	---	---	2/2	1	25	75
10	5F171	Computer Programming Lab	---	---	3	2	25	75
11	5B171	Engineering Workshop – I	---	---	2/2	1	25	75
12	5F172	IT Workshop – I	---	---	2/2	1	25	75
13	5B191	Seminar on Current Affairs and Technical Topics			2	1	100	--
<b>Total</b>			<b>14</b>	<b>5</b>	<b>15</b>	<b>24</b>	<b>400</b>	<b>900</b>

**I Year – II Semester**

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5H202	English-II	2	2	---	2	25	75
2	5H213	Engineering Mathematics-II	3	1	---	3	25	75
3	5E201	Data Structures and C++	3	1	---	3	25	75
4	5B202	Engineering Drawing-II	1	1	2	2	25	75
5	5H232	Environmental Chemistry and Ecology	2	1	---	2	25	75
6	5BC03	Engineering Mechanics	3	1	---	3	25	75
7	5H224	Applied Physics -II	3	1	---	3	25	75
8	5H233	Ethics, Morals, Gender Sensitization, and Yoga	1	1	---	1	25	75
9	5E271	Data Structures and C++ Lab	---	---	3	2	25	75
10	5B272	Engineering Workshop-II	---	---	2/2	1	25	75
11	5H282	Engineering Physics Lab-II	---	---	2/2	1	25	75
12	5B292	Seminar on Science and its impact	---	---	2	1	100	---
<b>Total</b>			<b>18</b>	<b>9</b>	<b>9</b>	<b>24</b>	<b>375</b>	<b>825</b>

Note: All End Examinations (Theory and Practical) are of **Three** hours duration.

**T – Tutorial**  
**C- Credits**

**L- Theory**  
**Int. - Internal Exam**

**P/D – Practical/Drawing**  
**Ext. - External Exam**

**II Year I Semester**

Sr. No	Subject Code	Subject	L	T	P/D	C	Max Marks	
							Int	Ext
1	5H315	Engineering Mathematics - III	3	1	-	3	25	75
2	5K301	Strength of Materials - I	3	1	-	3	25	75
3	5K302	Fluid Mechanics (FM-I)	3	1	-	3	25	75
4	5K303	Surveying	3	1	-	3	25	75
5	5ZC01	Managerial Economics and Financial Analysis	2	1	-	2	25	75
6	5BC66	Basic Mechanical Engineering	2	1	-	2	25	75
7	5E341	Programming in Java	2	2	-	2	25	75
8	5K371	Strength of Materials Lab	-	-	3	2	25	75
9	5K372	Surveying – I Lab	-	-	3	1	25	75
10	5K373	Computer Aided Drafting of Buildings Lab	-	-	3	2	25	75
11	5H373	Functional Communicative Written English	1	2	-	1	25	75
<b>Total :</b>			<b>19</b>	<b>10</b>	<b>9</b>	<b>24</b>	<b>275</b>	<b>825</b>

**II Year II Semester**

Sr. No	Subject Code	Subject	L	T	P/D	C	Max Marks	
							Int	Ext
1	5HC17	Probability and Statistics	3	1		3	25	75
2	5K401	Strength of Materials - II	3	1	-	3	25	75
3	5K402	Structural Analysis – I	3	1	-	3	25	75
4	5K403	Open Channel Flow and Hydraulic Machinery (FM-II)	3	1	-	3	25	75
5	5K404	Building Materials and Construction Planning	3	-	-	3	25	75
6	5K405	Engineering Geology	3	-	-	2	25	75
7	5K471	Fluid Mechanics Lab	-	-	3	2	25	75
8	5K472	Surveying – II Lab	-	-	3	2	25	75
9	5K473	Engineering Geology Lab	-	-	3	2	25	75
10	5K494	Survey Camp with Seminar	-	-	2	1	100	-
<b>Total :</b>			<b>18</b>	<b>4</b>	<b>11</b>	<b>24</b>	<b>325</b>	<b>675</b>

**III Year I Semester**

Sr. No	Subject Code	Subject	L	T	P/D	C	Max Marks	
							Int	Ext
1	5K501	Reinforced Concrete Design	3	1	-	3	25	75
2	5K502	Structural Analysis - II	3	1	-	3	25	75
3	5K503	Environmental Engineering	3	1	-	3	25	75
4	5K504	Geotechnical Engineering	3	1	-	3	25	75
5		Professional Elective_1	3	-	-	3	25	75
6		Open Elective_1	2	1	-	2	25	75
7	5K571	Hydraulics and Hydraulic Machinery (FM-II) Lab	-	-	3	2	25	75
8	5K573	Environmental Engineering Lab	-	-	3	2	25	75
9	5K574	Geotechnical Engineering Lab	-	-	3	2	25	75
10	5HC75	Quantitative Aptitude	1	1	-	1	25	75
		<b>Total:</b>	<b>18</b>	<b>6</b>	<b>9</b>	<b>24</b>	<b>250</b>	<b>750</b>

**Professional Elective\_1: List of Subjects (3\_1)**

Sr. No	Name of Stream	Subject Code	Subject Name
1	Construction Technology	5KC51	Construction Technology & Project Management
2	Structural Engineering	5KC52	Structural Dynamics
3	Water Resources and Environmental Engineering Stream	5KC53	Advanced Environmental Engineering
4	GIS, Surveying, and Transportation Stream	5KC54	GIS Science
5	Geotechnical & Geo-environmental Engineering Stream	5KC55	Foundation Engineering

**Open Elective\_1: List of Subjects (3\_1)**

Sr. No	Name of Stream	Subject Code	Subject Name
1	Computer science	5FC32	Database Systems
2	Computer Database	5EC26	SAP-I: SAP ABAP Workbench Fundamentals
3	Management Science_1: General	5ZC03	Banking Operations, Insurance and Risk Management
4	Management Science_2: Technical Entrepreneurship	5ZC20	Product & Services
5	Mechanical Engineering	5BC61	Fundamentals of Smart Materials
6	Foreign Languages	5HC46	Basic German Language

**III Year II Semester**

Sr. No	Subject Code	Subject	L	T	P/D	C	Max Marks	
							Int	Ext
1		Professional Elective_2	3	-	-	3	25	75
2	5K601	Design of Steel Structures	3	1	-	3	25	75
3	5K602	Irrigation and Water Resources Engineering	3	1	-	3	25	75
4	5K603	Transportation Engineering	3	1	-	3	25	75
5		Open Elective_2	2	1	-	2	25	75
6		Open Elective_3	2	1	-	2	25	75
7	5K673	Transportation Engineering Lab	-	-	3	2	25	75
8	5K672	Geographic Information Systems Lab	-	-	3	2	25	75
9	5K671	MATLAB Programming Lab	-	-	3	2	25	75
10	5H474	Effective English communication & Soft Skills	-	1	2	1	25	75
11	5HC77	Logical Reasoning	1	1	-	1	25	75
		<b>Total:</b>	<b>17</b>	<b>7</b>	<b>11</b>	<b>24</b>	<b>275</b>	<b>825</b>

**Professional Elective\_2: List of Subjects (3\_2)**

Sr. No	Name of Stream	Subject Code	Subject Name
1	Construction Technology	5KC61	Advanced Construction Techniques
2	Structural Engineering	5KC62	Earthquake resistant design of buildings
3	Water Resources and Environmental Engineering Stream	5KC63	Ground Water Hydrology
4	GIS, Surveying, and Transportation Stream	5KC64	Digital Image Processing
5	Geotechnical & Geo-environmental Engineering Stream	5KC65	Soil Dynamics

**Open Elective\_2: List of Subjects(3\_2)**

Sr. No	Name of Stream	Subject Code	Subject Name
1	Computer Science	5EC04	Fundamentals of Operating Systems
2	Computer Database	5EC27	SAP-II: SAP ABAP Workbench Concepts
3	Management Science_1: General	5ZC19	Entrepreneurship, Project Management & Structured Finance
4	Management Science_2: Technical Entrepreneurship	5ZC05	General Management and Entrepreneurship
5	Mechanical Engineering	5BC63	Principles of Operations Research
6	Foreign Languages	5HC41	Basic French Language

**Open Elective\_3: List of Subjects(3\_2)**

Sr. No	Name of Stream	Subject Code	Subject Name
1	Computer Science	5FC28	Fundamentals of Big Data Analytics
2	Computer Database	5ZC08	Enterprise Resource Planning
3	Management Science_1: General	5ZC08	Enterprise Resource Planning
4	Management Science_2: Technical Entrepreneurship	5ZC08	Enterprise Resource Planning
5	Mechanical Engineering	5BC62	Basic Manufacturing Processes
6	Foreign Languages	5HC51	Basic Spanish Language

**IV Year I Semester**

Sr. No	Subject Code	Subject	L	T	P/D	C	Max Marks	
							Int	Ext
1	5K701	Structural Engineering Design & Detailing (Concrete)	3	1	-	3	25	75
2	5K702	Concrete Technology	3	1	-	3	25	75
3	5K703	Estimation and Valuation	3	1	-	3	25	75
4	5K704	Finite Element Method for Civil Engineers	3	1	-	3	25	75
5		Professional Elective_3	3	-	-	3	25	75
6		Professional Elective_4	3	-	-	3	25	75
7	5K772	Concrete Technology Lab	-	-	4	2	25	75
8	5K774	Computer Applications in Civil Engineering Lab	-	-	4	2	25	75
9	5K780	Project Phase – I	-	1	3	3	100	-
10	5GC49	Intellectual Property Rights	1	1	-	1	25	75
11	5K777	Industry Oriented Mini Project (3_2 & 4_1 break)	-	-	-	2	25	75
<b>Total:</b>			<b>19</b>	<b>6</b>	<b>11</b>	<b>28</b>	<b>350</b>	<b>750</b>

**Professional Elective\_3: List of Subjects (4\_1)**

Sr. No	Name of Stream	Subject Code	Subject Name
1	Construction Technology	5KC71	Services, Maintenance and Repair of Buildings
2	Structural Engineering	5KC72	Health Monitoring and Retrofitting of Structures
3	Water Resources and Environmental Engineering Stream	5KC73	Water Resources Systems Planning and Management
4	GIS, Surveying, and Transportation Stream	5KC74	Land and Water applications of Remote sensing
5	Geotechnical & Geo-environmental Engineering Stream	5KC75	Ground Improvement Techniques

**Professional Elective\_4: List of Subjects (4\_1)**

Sr. No	Name of Stream	Subject Code	Subject Name
1	Construction Technology	5KC81	Alternative Building Materials and Technologies
2	Structural Engineering	5KC82	Pre-stressed Concrete Structures
3	Water Resources and Environmental Engineering Stream	5KC83	Applied Hydrology and Meteorology
4	GIS, Surveying, and Transportation Stream	5KC84	GIS Analysis and Modelling
5	Geotechnical & Geo-environmental Engineering Stream	5KC85	Elements of Geo-Environmental Engineering

**IV Year II Semester**

Sr. No	Subject Code	Subject	L	T	P/D	C	Max Marks	
							Int	Ext
1	5K801	Design and Detailing of Hydraulic Structures	3	1	-	3	25	75
2		Professional Elective_5	3	-	-	3	25	75
3	5K898	Technical Literature Review and Seminar	-	-	2	1	100	-
4	5K883	Comprehensive Viva Voce	-	-	-	1	50	50
6	5K880	Project - Final Phase	-	-	20	1 2	50	150
		<b>Total:</b>	<b>6</b>	<b>1</b>	<b>22</b>	<b>2 0</b>	<b>250</b>	<b>350</b>

**Professional Elective\_5: List of Subjects (4\_2)**

Sr. No	Name of Stream	Subject Code	Subject Name
1	Construction Technology	5KC91	Urban Planning and Sustainable Development
2	Structural Engineering	5KC92	High Rise Buildings
3	Water Resources and Environmental Engineering Stream	5KC93	Disaster Mitigation & Management
4	GIS, Surveying, and Transportation Stream	5KC94	Intelligent Transportation Systems
5	Geotechnical & Geo-environmental Engineering Stream	5KC95	Flow and Transport through porous media

**L: Lecture    T: Tutorial    P/D: Practical / Drawing****C: Credits****Int: Internal Ext: External**