

Approved Course Structure

Program: B.Tech.- Civil Engineering

Regulations: SVEC-19

Mandatory Induction Program	03 Weeks Duration
Induction program offered before commencement of the I-Semester course work	Physical Activity
	Creative Arts
	Universal Human Values
	Literary
	Proficiency Modules
	Lectures by Eminent People
	Visits to Local Areas
	Familiarization to Department/Branch and Innovations

I B.Tech I-Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT1BS01	Differential Equations and Multivariable Calculus	3	1	-	4	4	40	60	100
2.	19BT1BS04	Engineering Chemistry	3	-	-	3	3	40	60	100
3.	19BT1HS01	Communicative English	3	-	-	3	3	40	60	100
4.	19BT10501	Programming for Problem Solving	3	1	-	4	4	40	60	100
5.	19BT1BS32	Engineering Chemistry Lab	-	-	2	2	1	50	50	100
6.	19BT1HS31	Communicative English Lab	-	-	2	2	1	50	50	100
7.	19BT10331	Computer Aided Engineering Drawing	-	1	2	3	2	50	50	100
8.	19BT10531	Programming for Problem Solving Lab	-	-	2	2	1	50	50	100
Total			12	3	8	23	19	360	440	800

I B.Tech II-Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT2BS01	Transformation Techniques and Linear Algebra	3	1	-	4	4	40	60	100
2.	19BT1BS02	Biology for Engineers	2	-	-	2	2	40	60	100
3.	19BT2BS02	Applied Physics	3	-	-	3	3	40	60	100
4.	19BT10201	Basic Electrical and Electronics Engineering	3	-	-	3	3	40	60	100
5.	19BT20101	Civil Engineering Materials and Concrete Technology	3	-	-	3	3	40	60	100
6.	19BT20102	Engineering Mechanics	3	1	-	4	4	40	60	100
7.	19BT2BS31	Applied Physics Lab	-	-	2	2	1	50	50	100
8.	19BT10231	Basic Electrical and Electronics Engineering Lab	-	-	2	2	1	50	50	100
9.	19BT20331	Engineering Workshop	-	-	2	2	1	50	50	100
10.	19BT20131	Engineering Geology Lab	-	-	2	2	1	50	50	100
Total			17	2	8	27	23	440	560	1000
11	19BT1AC01	Spoken English	2	-	-	2	-	-	-	-

II B.Tech I-Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (c)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT3BS01	Numerical Methods, Probability and Statistics	3	1	-	4	4	40	60	100
2.	19BT30101	Construction, Planning and Project Management	3	-	-	3	3	40	60	100
3.	19BT30102	Fluid Mechanics	3	-	-	3	3	40	60	100
4.	19BT30103	Mechanics of Solids	3	1	-	4	4	40	60	100
5.	19BT30104	Surveying	3	-	-	3	3	40	60	100
6.	19BT3HS31	Soft Skills Lab	-	-	2	2	1	50	50	100
7.	19BT30131	Civil Engineering Materials and Construction Technology Workshop	-	-	2	2	1	50	50	100
8.	19BT30132	Strength of Materials Lab	-	-	2	2	1	50	50	100
9.	19BT30133	Surveying Lab	-	-	2	2	1	50	50	100
Total			15	2	8	25	21	400	500	900
10.	19BT315AC	Design Thinking	2	-	-	2	-	-	-	-

II B.Tech II-Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT40101	Engineering Hydrology	3	-	-	3	3	40	60	100
2.	19BT40102	Environmental Engineering	3	-	-	3	3	40	60	100
3.	19BT40103	Hydraulic Engineering	3	-	-	3	3	40	60	100
4.	19BT40104	Soil Mechanics	3	-	-	3	3	40	60	100
5.	19BT40105	Structural Analysis	3	1	-	4	4	40	60	100
6.	Open Elective-2		3	-	-	3	3	40	60	100
7.	19BT40131	Environmental Engineering Lab	-	-	2	2	1	50	50	100
8.	19BT40132	Fluid Mechanics and Hydraulic Machinery Lab	-	-	2	2	1	50	50	100
9.	19BT40133	Geotechnical Engineering Lab	-	-	2	2	1	50	50	100
Total			18	1	6	25	22	390	510	900
10.	19BT3MC01	Environmental Science	2	-	-	2	-	40	-	40

III B.Tech I-Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT50101	Irrigation Engineering and Hydraulic Structures	3	-	-	3	3	40	60	100
2.	19BT50102	Foundation Engineering	3	-	-	3	3	40	60	100
3.	19BT50103	Reinforced Cement Concrete Structures	3	-	-	3	3	40	60	100
4.	19BT50104	Transportation Engineering	3	-	-	3	3	40	60	100
5.	Open Elective-1		3	-	-	3	3	40	60	100
6.	Interdisciplinary Elective- 1									
	19BT50443	Principles of Image Processing								
	19BT60205	Energy Audit, Conservation and Management	3	-	-	3	3	40	60	100
	19BT70303	Computational Fluid Dynamics								
	19BT50105	Construction Equipment and Automation								
	19BT50106	Pipeline Engineering								
7.	19BT50131	Computer Aided Building Planning and Drawing	-	-	2	2	1	50	50	100
8.	19BT50132	Transportation Engineering Lab	-	-	2	2	1	50	50	100
9.	19BT50133	Socially Relevant Project-1	-	-	-	-	1	50	50	100
Total			18	-	4	22	21	390	510	900
10.	19BT503AC	Foundations of-Entrepreneurship	2	-	-	2	-	-	-	-

III B.Tech II-Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT6HS02	Organizational Behavior	3	-	-	3	3	40	60	100
2.	19BT60101	Steel Structures	3	-	-	3	3	40	60	100
3.	Professional Elective-1									
	19BT60102	Advanced Structural Analysis								
	19BT60103	Advanced Surveying								
	19BT60104	Air and Noise Pollution and Control	3	-	-	3	3	40	60	100
	19BT60105	Architecture and Town Planning								
	19BT60106	Ground Improvement Techniques								
	19BT60107	Urban Stormwater Management								
	19BT60108	Railway Engineering								
4.	Professional Elective-2									
	19BT60109	Advanced Reinforced Cement Concrete Structures								
	19BT60110	Geoenvironmental Engineering								
	19BT60111	Global Positioning System (GPS)								
	19BT60112	Groundwater Development and Management	3	-	-	3	3	40	60	100
	19BT60113	Rehabilitation and Retrofitting of Structures								
	19BT60114	Solid and Hazardous Waste Management								
	19BT60115	Transportation Planning and Management								
5.	Professional Elective-3									
	19BT60116	Earthquake Resistant Design of Structures								
	19BT60117	Highway Construction and Maintenance								
	19BT60118	Industrial Wastewater Treatment								
	19BT60119	Infrastructure Development and Management	3	-	-	3	3	40	60	100
	19BT60120	Land Survey and Real Estate Development								
	19BT60121	Soil Dynamics and Machine Foundations								
	19BT60122	Sustainable Water Resources Development								
	Interdisciplinary Elective-2									
	19BT60313	Optimization Techniques								
	19BT60343	Thermodynamics and Heat Transfer								
6.	19BT60123	Fire Engineering	3	-	-	3	3	40	60	100
	19BT60124	Intelligent Transportation Systems								
	19BT60125	Smart Materials and Structures								
7.	19BT61531	Internet of Things (IoT) Lab	-	1	2	3	2	50	50	100
8.	19BT60131	Civil Engineering Software Lab	-	-	2	2	1	50	50	100
9.	19BT60132	Socially Relevant Project-2	-	-	-	-	1	50	50	100
Total			18	1	4	23	22	390	510	900
10.	19BT5MC01	Universal Human Values	2	-	-	2	-	40	-	40

IV B.Tech I–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT6HSO1	Principles of Business Economics and Accountancy	3	-	-	3	3	40	60	100
2.	19BT70101	Estimation and Quantity Surveying	3	-	-	3	3	40	60	100
3.	19BT70102	Geospatial Technologies	3	-	-	3	3	40	60	100
4.	Professional Elective-4									
	19BT70103	Advanced Foundation Engineering	3	-	-	3	3	40	60	100
	19BT70104	Advanced Steel Structures								
	19BT70105	Environmental Hydraulics								
	19BT70106	Pavement Analysis and Design								
	19BT70107	Prestressed Concrete								
	19BT70108	River Engineering and River Basin Management								
	19BT70109	Structural Health Monitoring								
5.	Professional Elective-5									
	19BT70110	Analysis and Design of Composite Structures	3	-	-	3	3	40	60	100
	19BT70111	Bridge Engineering								
	19BT70112	Civil Infrastructure for Smart City Development								
	19BT70113	Environmental Impact Assessment and Management								
	19BT70114	Geotechnics for Underground Structures								
	19BT70115	Traffic Engineering and Management								
	19BT70116	Water Resources Systems Planning and Management								
6.	19BT7MOOC	MOOC	-	-	-	-	3	-	100	100
7.	19BT70131	Remote Sensing and Geographical Information Systems Lab	-	-	2	2	1	50	50	100
8.	19BT70132	Computer Aided Design and Detailing Lab	-	-	2	2	1	50	50	100
9.	19BT70133	Internship	-	-	-	-	2	--	100	100
Total			15	-	4	19	22	300	600	900
	19BT701AC	Spread Sheet Applications in Civil Engineering	-	-	2	2	-	-	-	-

* Student shall undertake the Internship in Industry/National Laboratories/Academic Institutions for a minimum period of 4 weeks.

IV B.Tech II–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT80131	Project Work	-	-	-	-	10	100	100	200
Total			-	-	-	-	10	100	100	200

LIST OF COURSES FOR

OPEN ELECTIVE-1 and OPEN ELECTIVE-2

Course Code	Open Elective -1	Course Code	Open Elective -2
19BT4BS01	Material Science	19BT4HS01	Banking and Insurance
19BT4HS02	Business Communication and Career Skills	19BT4HS03	Cost Accounting and Financial Management
19BT4HS04	Entrepreneurship for Micro, Small and Medium Enterprises	19BT4HS05	Gender and Environment
19BT4HS06	German Language	19BT4HS07	Indian Economy
19BT4HS08	Indian History	19BT4HS09	Life Skills
19BT4HS10	Personality Development	19BT4HS11	Professional Ethics
19BT4HS12	Women Empowerment	19BT4HS13	Indian Tradition and Culture
19BT4HS14	Constitution of India	19BT40106	Disaster Mitigation and Management
19BT40205	Reliability and Safety Engineering	19BT40107	Sustainable Engineering
19BT50107	Environmental Pollution and Control	19BT40108	Contract Laws and Regulations
19BT50108	Planning for Sustainable Development	19BT40306	Global Strategy and Technology
19BT50109	Rural Technology	19BT40307	Management Science
19BT50505	Ethical Hacking	19BT40504	Cyber Laws and Security
19BT51207	AI in Healthcare	19BT50208	Intellectual Property Rights
19BT51506	Bioinformatics	19BT50409	Green Technologies

MINOR/HONORS DEGREE

IN GREEN TECHNOLOGY AND SUSTAINABLE ENGINEERING

Semester	COURSE CODE	Course Title	Contact Periods per week				C
			L	T	P	Total	
III B.Tech. I-Sem	19BT40107	Sustainable Engineering	3	-	-	3	3
	19BT50409	Green Technologies	3	-	-	3	3
III B.Tech. II-Sem	19BT60126	Environmental Sustainability	3	-	-	3	3
	19BT60127	Sustainable Energy Systems	3	-	-	3	3
	19BT60128	Sustainability in The Built Environment	3	-	-	3	3
IV B.Tech. I-Sem	19BT70117	Environmental Economics	3	-	-	3	3
	19BT70118	Sustainable Cities	3	-	-	3	3
	19BT70119	Sustainable Design of Technology Systems	3	-	-	3	3

Note: Students opting for the above Minor/Honors Degree shall not register for the courses "Green Technologies" and "Sustainable Engineering" offered under open electives.



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