

**Approved Course Structure**

**Program: B.Tech.- Civil Engineering**

**Regulations: SVEC-16**

S. No.	Course Code	Course Title	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Internal Marks	External Marks	Total Marks
<b>I Year - I Semester</b>										
1.	16BT1HS01	Technical English	3	1	0	4	3	30	70	100
2.	16BT1BS01	Engineering Chemistry	3	1	0	4	3	30	70	100
3.	16BT1BS03	Matrices and Numerical Methods	3	1	0	4	3	30	70	100
4.	16BT1BS04	Multi-Variable Calculus and Differential Equations	3	1	0	4	3	30	70	100
5.	16BT10501	Programming in C	3	1	0	4	3	30	70	100
6.	16BT1HS31	English Language Lab	0	0	3	3	2	50	50	100
7.	16BT1BS31	Engineering Chemistry Lab	0	0	3	3	2	50	50	100
8.	16BT10331	Computer Aided Engineering Drawing	0	1	6	7	3	50	50	100
9.	16BT10531	Programming in C Lab	0	0	3	3	2	50	50	100
<b>Total</b>			<b>15</b>	<b>6</b>	<b>15</b>	<b>36</b>	<b>24</b>	<b>350</b>	<b>550</b>	<b>900</b>

S. No.	Course Code	Course Title	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Internal Marks	External Marks	Total Marks
<b>I Year - II Semester</b>										
1.	16BT1BS02	Engineering Physics	3	1	0	4	3	30	70	100
2.	16BT2BS01	Transformation Techniques and Partial Differential Equations	3	1	0	4	3	30	70	100
3.	16BT20101	Building Materials and Construction Technology	3	1	0	4	3	30	70	100
4.	16BT20102	Engineering Mechanics	4	1	0	5	4	30	70	100
5.	16BT20241	Basic Electrical and Electronics Engineering	3	1	0	4	3	30	70	100
6.	16BT1BS32	Engineering Physics Lab	0	0	3	3	2	50	50	100
7.	16BT20131	Building Materials and Construction Technology Lab	0	0	3	3	2	50	50	100
8.	16BT20252	MATLAB Practice for Civil Engineers	0	1	3	4	2	50	50	100
9.	16BT20331	Engineering Workshop Practice	0	0	3	3	2	50	50	100
<b>Total</b>			<b>16</b>	<b>6</b>	<b>12</b>	<b>34</b>	<b>24</b>	<b>350</b>	<b>550</b>	<b>900</b>

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
<b>II Year - I Semester</b>											
1.	16BT3BS01	Probability Distributions and Statistical Methods	BS	3	1	0	4	3	30	70	100
2.	16BT3HS02	Managerial Economics and Principles of Accountancy	HS	3	1	0	4	3	30	70	100
3.	16BT30101	Construction Planning and Project Management	PC	3	1	0	4	3	30	70	100
4.	16BT30102	Fluid Mechanics and Hydraulic Machinery	PC	3	1	0	4	3	30	70	100
5.	16BT30103	Mechanics of Solids	ES	3	1	0	4	3	30	70	100
6.	16BT30104	Surveying	PC	3	1	0	4	3	30	70	100
7.	16BT30131	Fluid Mechanics and Hydraulic Machinery Lab	PC	0	0	3	3	2	50	50	100
8.	16BT30132	Strength of Materials Lab	PC	0	0	3	3	2	50	50	100
9.	16BT30133	Surveying Lab	PC	0	0	3	3	2	50	50	100
<b>Total</b>				<b>18</b>	<b>6</b>	<b>9</b>	<b>33</b>	<b>24</b>	<b>330</b>	<b>570</b>	<b>900</b>

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
<b>II Year - II Semester</b>											
1.	16BT3HS01	Environmental Studies	HS	3	0	0	3	3	30	70	100
2.	16BT40101	Concrete Technology	PC	3	1	0	4	3	30	70	100
3.	16BT40102	Engineering Geology	PC	3	1	0	4	3	30	70	100
4.	16BT40103	Engineering Hydrology	PC	3	1	0	4	3	30	70	100
5.	16BT40104	Structural Analysis-I	PC	3	1	0	4	3	30	70	100
6.	16BT40105	Water Supply Engineering	PC	3	1	0	4	3	30	70	100
7.	16BT40131	Concrete Technology Lab	PC	0	0	3	3	2	50	50	100
8.	16BT40132	Engineering Geology Lab	PC	0	0	3	3	2	50	50	100
9.	16BT4HS31	Soft Skills Lab	HS	0	0	3	3	2	50	50	100
<b>Total</b>				<b>18</b>	<b>5</b>	<b>9</b>	<b>32</b>	<b>24</b>	<b>330</b>	<b>570</b>	<b>900</b>

S. No.	Course Code	Course Title	Course Category	Contact Periods/Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
<b>III Year - I Semester</b>											
1.	16BT50101	Irrigation Engineering	PC	3	1	0	4	3	30	70	100
2.	16BT50102	Reinforced Cement Concrete Structures	PC	3	1	0	4	3	30	70	100
3.	16BT50103	Soil Mechanics	PC	3	1	0	4	3	30	70	100
4.	16BT50104	Structural Analysis-II	PC	3	1	0	4	3	30	70	100
5.	16BT50105	Wastewater Technology	PC	3	1	0	4	3	30	70	100
6.	<b>Interdisciplinary Elective-1</b>		IDE	3	1	0	4	3	30	70	100
	16BT50441 16BT5HS02 16BT50241 16BT70308	1. Principles of Image Processing 2. Costing and Finance Management for Civil Engineers 3. Renewable Energy 4. Computational Fluid Dynamics									
7.	16BT50131	Computer Aided Building Planning and Drawing	PC	0	1	3	4	2	50	50	100
8.	16BT50132	Environmental Engineering Lab	PC	0	0	3	3	2	50	50	100
9.	16BT50133	Geotechnical Engineering Lab	PC	0	0	3	3	2	50	50	100
<b>Total</b>				<b>18</b>	<b>7</b>	<b>9</b>	<b>34</b>	<b>24</b>	<b>330</b>	<b>570</b>	<b>900</b>

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
<b>III Year - II Semester</b>											
1.	16BT60101	Foundation Engineering	PC	3	1	0	4	3	30	70	100
2.	16BT60102	Highway and Traffic Engineering	PC	3	1	0	4	3	30	70	100
3.	16BT60103	Steel Structures	PC	3	1	0	4	3	30	70	100
4.	<b>Interdisciplinary Elective-2</b>		IDE	3	1	0	4	3	30	70	100
	16BT40502 16BT50341 16BT60104 16BT60241	1. Data Base Management Systems 2. Optimization Techniques 3. Fire Engineering 4. Energy Audit and Conservation									
5.	<b>Program Elective - 1</b>		PE	3	1	0	4	3	30	70	100
	16BT60105 16BT60106 16BT60107 16BT60108 16BT60109  16BT60110 16BT60111	1. Advanced Reinforced Cement Concrete Structures 2. Advanced Structural Analysis 3. Advanced Surveying 4. Geoenvironmental Engineering 5. Groundwater Development and Management 6. Solid Waste Management 7. Structural Health Monitoring									
6.		Open Elective	OE	3	1	0	4	3	30	70	100
7.	16BT60131	Computer Aided Design and Detailing Lab	PC	0	0	3	3	2	50	50	100
8.	16BT60132	Highway Engineering Lab	PC	0	0	3	3	2	50	50	100
9.	16BT60133	Seminar	EEC	0	0	0	0	2	-	100	100
10.	16BT6MOOC	MOOC	-	-	-	-	-	-	-	-	-
<b>Total</b>				<b>18</b>	<b>6</b>	<b>6</b>	<b>30</b>	<b>24</b>	<b>280</b>	<b>620</b>	<b>900</b>

### LIST OF OPEN ELECTIVES

Sl. No.	Course Code	Open Elective Course Title	Sl. No.	Course Code	Open Elective Course Title
1.	16BT6HS01	Banking and Insurance	16.	16BT60114	Disaster Mitigation and Management
2.	16BT6HS02	Business Communication and Career Skills	17.	16BT60115	Environmental Pollution and Control
3.	16BT6HS03	Cost Accounting and Financial Management	18.	16BT60116	Planning for Sustainable Development
4.	16BT6HS04	Entrepreneurship for Micro, Small and Medium Enterprises	19.	16BT60117	Professional Ethics
5.	16BT6HS05	French Language	20.	16BT60118	Rural Technology
6.	16BT6HS06	German Language	21.	16BT60308	Global Strategy and Technology
7.	16BT6HS07	Indian Constitution	22.	16BT60309	IPR and Management
8.	16BT6HS08	Indian Economy	23.	16BT60310	Managing Innovation and Entrepreneurship
9.	16BT6HS09	Indian Heritage and Culture	24.	16BT60311	Material Science
10.	16BT6HS10	Indian History	25.	16BT70412	Green Technologies
11.	16BT6HS11	Personality Development	26.	16BT70413	Introduction to Nanoscience and Technology
12.	16BT6HS12	Philosophy of Education	27.	16BT60505	Engineering System Analysis and Design
13.	16BT6HS13	Public Administration	28.	16BT71011	Micro-Electro-Mechanical Systems
14.	16BT60112	Building Maintenance and Repair	29.	16BT61205	Cyber Security and Laws
15.	16BT60113	Contract Laws and Regulations	30.	16BT61505	Bio-informatics

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<b>IV Year - I Semester</b>											
1.	16BT70101	Estimation and Quantity Surveying	PC	3	1	0	4	3	30	70	100
2.	16BT70102	Geospatial Technologies	PC	3	1	0	4	3	30	70	100
3.	16BT70103	Railway, Airport and Harbour Engineering	PC	3	1	0	4	3	30	70	100
4.	<b>Program Elective - 2</b>		PE	3	1	0	4	3	30	70	100
	16BT70104	Advanced Foundation Engineering									
	16BT70105	Architecture and Town Planning									
	16BT70107	Environmental Impact Assessment and Management									
	16BT70108	Global Positioning System (GPS)									
	16BT70109	Structural Dynamics									
	16BT70110	Transportation Planning and Management									
		Water Resources Systems Planning and Management									
5.	<b>Program Elective - 3</b>		PE	3	1	0	4	3	30	70	100
	16BT70111	Advanced Steel Structures									
	16BT70112	Earthquake Resistant Design of Structures									
	16BT70113	Highway Construction and Maintenance									
	16BT70114	Industrial Wastewater Treatment									
	16BT70115	Infrastructure Development and Management									
	16BT70116	Soil Dynamics and Machine Foundations									
	16BT70117	Watershed Management									
6.	<b>Program Elective - 4</b>		PE	3	1	0	4	3	30	70	100
	16BT70118	Air Pollution and Control									
	16BT70119	Bridge Engineering									
	16BT70120	Ground Improvement Techniques									
	16BT70121	Hydro Power Engineering									
	16BT70122	Pavement Analysis and Design									
	16BT70123	Prestressed Concrete Rehabilitation and Retrofitting of Structures									
	16BT70124										
7.	16BT70131	Civil Engineering Software Lab	EEC	0	0	3	3	2	50	50	100
8.	16BT70132	Remote Sensing and Geographical Information Systems Lab	PC	0	0	3	3	2	50	50	100
9.	16BT70133	Comprehensive Assessment	EEC	0	0	0	0	2	-	100	100
<b>Total</b>				<b>18</b>	<b>6</b>	<b>6</b>	<b>30</b>	<b>24</b>	<b>280</b>	<b>620</b>	<b>900</b>

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				L	T	P	Total		Internal Marks	External Marks	Total Marks
<b>IV Year - II Semester</b>											
1.	16BT80131	Project Work*	EEC	0	0	0	0	12	100	100	200
<b>Total</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>100</b>	<b>100</b>	<b>200</b>



**DEAN (Academics)**

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**PRINCIPAL**

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