



**SREE VIDYANIKETHAN ENGINEERING COLLEGE (AUTONOMOUS)**  
Sree Sainath Nagar, Tirupati – 517 102, A.P.  
**DEPARTMENT OF CIVIL ENGINEERING**

**Agenda for 13<sup>th</sup> Meeting of Board of Studies for B. Tech.**  
**(Civil Engineering) on 10.07.2021 at 2:00 PM**

1. Action Taken Report on Minutes/ Resolutions of 11<sup>th</sup> & 12<sup>th</sup> BOS Meetings
2. Report on Implementation of Autonomy with Respect to Syllabi & Academic Regulations for II B.Tech. CE (Under SVEC19 Regulations) and I B.Tech. CE (Under SVEC20 Regulations).
3. Course Structure, Syllabi with Course Objectives, Course Outcomes, for the Courses of III & IV B.Tech. CE including Minor & Honors Degrees (Under SVEC19 Regulations).
4. Course Structure, Syllabi with Course Objectives, Course Outcomes, for the Courses of II, III & IV B.Tech. (Under SVEC20 Regulations) and Course Structure of Minor & Honors Degrees (Under SVEC20 Regulations).
5. Regulation-wise, list of courses in which the content of the syllabus is changed more than 20%.
6. List of new courses introduced in SVEC19 Regulations and SVEC20 Regulations.
7. Panel of Examiners for Question Paper Setting for the Courses of III & IV B.Tech. CE including Minor & Honors Degrees (Under SVEC19 Regulations); and II, III & IV B.Tech. (Under SVEC20 Regulations).
8. Amendments to SVEC19 B.Tech. Academic Regulations
9. Amendements to SVEC20 B.Tech. Academic Regulations
10. Substitute Courses
11. Appraisal on teaching, research, extension and other academic activities, achievements of the Department.
  - (a) Implementation of Teaching, Learning and Evaluation Process
  - (b) Research and Consultancy
  - (c) Extension Activities
  - (d) Faculty Development Activities
  - (e) Staff Development Activities
  - (f) Student Development Activities
  - (g) Student Support Systems
  - (h) Achievements of the Department
12. Any other Item

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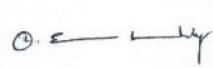
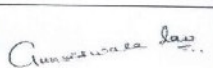
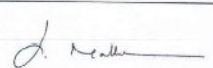

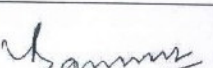
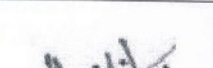
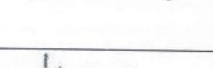
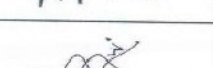
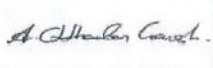
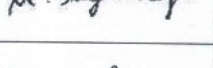

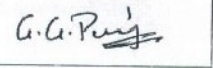




**Dr. O. Eswara Reddy**  
Chairman  
BOS in Civil Engineering



**13<sup>th</sup> Meeting of Board of Studies**  
**for B.Tech. in Civil Engineering on 10.07.2021 @ 2:00 PM**

**MINUTES**

**Members Present:**

S. No.	Name	Designation	
1.	<b>Dr. O. Eswara Reddy</b> Professor and HoD, Dept. of Civil Engineering, Sree Vidyanikethan Engineering College (Autonomous), Tirupati – 517 102.	Chairman	
2.	<b>Dr. T. D. Gunneswara Rao,</b> Professor, Department of Civil Engg., National Institute of Technology, Warangal – 506004.	External Member (Academics)	
3.	<b>Dr. P. Mallikarjuna</b> Professor, Dept. of Civil Engineering, S. V. U. College of Engineering, S. V. University, Tirupati-517502	External Member (Academics)	
4.	<b>Dr. P. R. Bhanu Murthy</b> Professor & BOS Chairman (PG), Department of Civil Engineering, JNTUA University Anantapur, Ananthapuramu-515 002.	External Member (Academics)	
5.	<b>Mr. A. T. Samuel</b> Director, STUP Consultants Pvt. Ltd., A1 - Tower, 5th & 6th Floors, Golden Enclave, HAL Airport Road, Bengaluru-560 017	External Member (Industry)	
6.	<b>Mr. P. S. Harshit</b> Senior Engineer (Technical) Reinforced Soil Wall Unit, Maccaferri Environmental Solutions Pvt. Ltd, Golf Course Extension Road , Sector – 66, Gurgaon, Haryana – 122001.	External Member (Alumni)	
7.	<b>Dr. Hemadri Prasad Raju</b> Associate Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
8.	<b>Dr. Rangari Vinay Ashok</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
9.	<b>Dr. Chithambara Ganesh A</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
10.	<b>Dr. M. Jaya Theja</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
11.	<b>Dr. Sagarika Panigrahi</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
12.	<b>Mr. D. Srinivasa Murthy</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
13.	<b>Mrs. G. Gnana Prasanna</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
14.	<b>Mr. V. Prem Kumar,</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
15.	<b>Mr. D. V. Purushotham</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	
16.	<b>Mr. M. P. Charan Sai</b> Assistant Professor, Dept. of Civil Engineering, SVEC, Tirupati.	Internal Member (Academics)	



**1. Action Taken Report on "Minutes of BOS Meeting held on 15-07-2020":**

Chairman Dr. O. Eswara Reddy apprised the members the Minutes/Resolutions of BOS Meeting held on 15-07-2020.

<b>Minutes of BOS Meeting held on 15-07-2020</b>	<b>Action Taken</b>
Syllabi of II B.Tech. Civil Engineering of SVEC19 Regulations were approved in the Board of Studies in Civil Engineering Meeting held on 15-07-2020.	Implemented for II B.Tech. Civil Engineering I and II Semesters during the academic year 2020-2021.
Model Question Papers for II B.Tech. Civil Engineering Courses (Under SVEC19)	Model Question Papers for II B.Tech. I and II Semesters were submitted to the Principal.
Panel of Examiners for Question Paper Setting for II B.Tech. Civil Engineering Courses (Under SVEC19)	Panels for II B.Tech. I Semester Civil Engineering were submitted to the Principal.
B.Tech. Academic Calendar for 2020-21	Implemented for I, II, III and IV B.Tech. for the academic year 2020-2021.
Administrative Setup of Curriculum Development for B.Tech. in Civil Engineering	Implemented from the academic year 2014-2015.
Amendments to SVEC19 B.Tech. Academic Regulations	Implemented the amendments from the academic year 2020-21.

The above Action Taken Report is noted for record.

**Action Taken Report on "Minutes of BOS Meeting held on 09-01-2021":**

Chairman Dr. O. Eswara Reddy apprised the members the Minutes/Resolutions of BOS Meeting held on 09-01-2021.

<b>Minutes of BOS Meeting held on 09-01-2021</b>	<b>Action Taken</b>
Syllabi of I B.Tech. Civil Engineering of SVEC20 Regulations were approved in the Board of Studies in Civil Engineering Meeting held on 09-01-2021.	Implemented for I B.Tech. Civil Engineering I and II Semesters from the academic year 2020-21.
Panel of Examiners for Question Paper Setting for I B.Tech. Civil Engineering Courses (Under SVEC20)	Panels were submitted to the Principal.

The above Action Taken Report is noted for record.

**2. Report on Implementation of Autonomy with respect to Syllabi and Regulations (SVEC19 Regulations: II B.Tech. CE I & II Semesters & SVEC20 Regulations: I B.Tech. CE I & II Semesters):**

Chairman-BOS presented a report on implementation of autonomy to the members. The board has congratulated the college authorities for successful implementation of SVEC19 regulations and syllabi for II B.Tech. CE I & II semesters and SVEC20 regulations and syllabi for I B.Tech. CE I & II semesters (**ANNEXURE-I**).

**3. Course Structure, Syllabi with Course Objectives, Course Outcomes, for the Courses of III & IV B.Tech. CE including Minor & Honors Degrees (Under SVEC19 Regulations):**

BOS Members approved the proposed Course Structure, Syllabi with Course Objectives & Outcomes of civil engineering core courses of III and IV B.Tech. Civil Engineering including Minor & Honors Degrees of SVEC19 Regulations (**ANNEXURE-II**). Members have appreciated the efforts of Chairman and Internal Members of BOS and the Department in framing syllabi in a best possible way. Members were apprised of the Syllabi of other courses of III and IV B.Tech. Civil Engineering.

**4. Course Structure, Syllabi with Course Objectives, Course Outcomes, for the Courses of II, III & IV B.Tech. (Under SVEC20 Regulations) and Course Structure of Minor & Honors Degrees (Under SVEC20 Regulations):**

BOS Members approved the proposed Course Structure, Syllabi with Course Objectives & Outcomes of civil engineering core courses of II, III and IV B.Tech. Civil Engineering of SVEC20 Regulations and Course Structure of Minor & Honors Degrees of SVEC20 Regulations (**ANNEXURE-III**). Members have appreciated the efforts of Chairman and Internal Members of BOS and the Department in framing syllabi in a best possible way. Members were apprised of the Syllabi of other courses of II, III and IV B.Tech. Civil Engineering. In addition, the following suggestions are made for further improvement.

1. Suggested to ascertain prerequisites for the courses under Honors category such as Finite Element Methods in Civil Engineering, Computational Methods in Hydraulics and Hydrology and Geotechnical Earthquake Engineering and list accordingly in the pools.
2. Suggested to move Finite Element Methods in Civil Engineering from the Pool 1 (III-I) to the Pool 3 (III-II) or Pool 4 (IV-I) in the Honors degree category, if possible.
3. Prerequisite of each course may be added in a separate column near the courses under the Honors category to facilitate easy understanding by the students to choose a course.
4. Risk and Reliability Analysis in Geotechnical Engineering may be changed into Risk and Reliability Analysis in Civil Engineering with the emphasis on application oriented topics.
5. Suggested to incorporate fundamentals of Risk and Reliability Analysis as a unit in mathematical subjects.
6. Suggested to incorporate a topic on "Risk and Reliability Analysis" in each course wherever appropriate, if possible.
7. Courses under professional elective category may be also considered to offer under honors degree if the students are interested.
8. Suggested to relax the minimum enrolment requirement (10 percent of total intake) to offer a honors degree and ensure that any student willing to do honors is not denied the opportunity.



**5. Regulation-wise, List of Courses in which the Content of the Syllabus is changed more than 20%:**

BOS Members approved the list of courses in which the content of the syllabus is changed more than 20% regulation-wise for SVEC19 and SVEC20 Regulations (**ANNEXURE-IV**). But, the members have suggested to indicate the changes made in the syllabus in a separate column along with the list of courses.

**6. List of New Courses introduced in SVEC19 Regulations and SVEC20 Regulations.**

BOS Members approved of the list of new courses in SVEC19 and SVEC20 Regulations (**ANNEXURE-V**).

**7. Panel of Examiners for Question Paper Setting for the Courses of III & IV B.Tech. CE including Minor & Honors Degrees (Under SVEC19 Regulations); and II, III & IV B.Tech. (Under SVEC20 Regulations).**

Members resolved to authorize the Chairman, BOS in Civil Engineering to prepare the Panel of Examiners for Question Paper Setting for each core theory courses of III & IV B.Tech. CE including Minor & Honors Degrees (Under SVEC19 Regulations); and II, III & IV B.Tech. (Under SVEC20 Regulations) and furnish to the Chairman, Academic Council for further action within fifteen days after the commencement of the semester.

**8. Amendments to SVEC19 B.Tech. Academic Regulations:**

Members were apprised of the proposed amendments to SVEC19 B.Tech. Academic Regulations (**ANNEXURE-VI**). Members appreciated and approved the amendments for implementation with effect from the academic year 2021-22.

**9. Amendments to SVEC20 B.Tech. Academic Regulations:**

Members were apprised of the proposed amendments to SVEC20 B.Tech. Academic Regulations (**ANNEXURE-VII**). Members appreciated and approved the amendments for implementation with effect from the academic year 2021-22.

**10. Substitute Subjects:**

Resolved to authorize the Chairman, BOS in Civil Engineering to finalize the substitute subjects as and when required and forward the same to the Chairman, Academic Council for further action.

**11. Appraisal on Teaching, Research, Extension and other Academic Activities, Achievements of the Department:**

**(a) Implementation of Teaching, Learning and Evaluation Process:**

Members were apprised of the workload distribution, time tables, teaching plan and schedules. The members have appreciated the good practices followed by the department in conducting diagnostic test, formative tests, remedial and reinforcement classes as well as offering of the necessary add-on courses (**ANNEXURE-VIII**).

For further improvement of student curriculum, it is suggested to concentrate more on reinforcement classes, student seminars, workshops, symposia and technical paper presentations.

**(b) Research and Consultancy:**

Members were apprised of the Research Initiatives at the Departmental level. They suggested certain thrust areas in which research proposals may be sent to the funding agencies. **(ANNEXURE-IX).**

**(c) Extension Activities:**

Members were informed about the students' active participation in various extension activities like NSS, blood donation camps, outreach activities, American Society of Civil Engineers Sree Vidyanikethan Engineering College (ASCE SVEC) Student Chapter activities, Indian Geotechnical Society Sree Vidyanikethan Engineering College (IGS SVEC) Student Chapter activities and Intellectual Association of Civil Engineers (IACE) activities setc. **(ANNEXURE-X).**

**(d) Faculty Development Activities:**

Members noted the list of publications and paper presentations by the members of the faculty. Also they were informed of the incentives given by the Management for their academic achievements **(ANNEXURE-XI).**

The faculty members are advised to publish only in reputed refereed journals having good impact factor.

Members were apprised of the faculty who had attended and organized the Faculty Development Programmes. Members suggested the thrust areas in which faculty are to be trained. Further, the Members taken note of Training Need Analysis for the academic year 2020-21. Resolved to authorize the Chairman, BOS in Civil Engineering to approve the TNA after updation by the head of the department as and when required.

Members noted the feedback mechanism followed by the Department for monitoring and improvement in teaching.

**(e) Staff Development Activities:**

Members were apprised the staff development programmes attended by the non-teaching personnel to improve their productive outcome for the benefit of self and department. Further, they took note of the staff development programmes organized by the department and TNA for the academic year 2020-21 **(ANNEXURE-XII).**

**(f) Student Development Activities:**

Members were informed about equity action plan & remediation, guest/expert lectures, industrial/site visits organized by the Department for the benefit of students. **(ANNEXURE-XIII).**

Members took note of the paper presentations by the students at National level Seminar/Symposia/Conferences etc. and in Mohana Mantra, a Student National Level Techno Cultural Fest Symposium conducted every year in the College.

Members were apprised the prizes, awards and recognitions achieved by the students both in co-curricular and extra-curricular activities. Members have expressed their satisfaction regarding the student development activities.

**(g) Student Support Systems:**

Members took note of the counseling mechanisms followed for overall improvement of the students and also the Campus Placement Related Skills (CPRS) programme conducted for better performance in placement related activities. They were apprised of the details of placement, QEEE training and training on Entrepreneurship during the last one year (**ANNEXURE-XIV**).

**(h) Achievements of the Department:**

Members were apprised the achievements of the department. Further, they took note of the achievements of the department for the academic year 2020-21 (**ANNEXURE-XV**).

Meeting concluded with thanks to the Members.



**Dr. O. Eswara Reddy**  
**Chairman**  
**Board of Studies in Civil Engineering**



**Approved Course Structure**

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

**Regulations: SVEC-20**

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



## COURSE STRUCTURE

### I B.Tech. – I Semester

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT1BS01	Differential Equations and Multivariable Calculus	3	-	-	3	3	30	70	100
2.	20BT1BS02	Engineering Chemistry	3	-	-	3	3	30	70	100
3.	20BT1BS04	Applied Physics	3	-	-	3	3	30	70	100
4.	20BT10101	Engineering Mechanics	3	-	-	3	3	30	70	100
5.	20BT1BS31	Engineering Chemistry Lab	-	-	3	3	1.5	30	70	100
6.	20BT1BS33	Applied Physics Lab	-	-	3	3	1.5	30	70	100
7.	20BT10331	Computer Aided Engineering Drawing	-	1	4	5	3	30	70	100
8.	20BT10332	Engineering Workshop	-	-	3	3	1.5	30	70	100
9.	20BT1HSAC	Spoken English (Audit Course)	2	-	-	2	-	-	-	-
<b>Total:</b>			<b>14</b>	<b>1</b>	<b>13</b>	<b>28</b>	<b>19.5</b>	<b>240</b>	<b>560</b>	<b>800</b>

### I B.Tech. – II Semester

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT2BS01	Transformation Techniques and Linear Algebra	3	-	-	3	3	30	70	100
2.	20BT1HS01	Communicative English	3	-	-	3	3	30	70	100
3.	20BT10201	Basic Electrical and Electronics Engineering	3	-	-	3	3	30	70	100
4.	20BT20541	Programming in C and Data Structures	3	-	-	3	3	30	70	100
5.	20BT20101	Civil Engineering Materials and Concrete Technology	3	-	-	3	3	30	70	100
6.	20BT1HS31	Communicative English Lab	-	-	3	3	1.5	30	70	100
7.	20BT20551	Programming in C and Data Structures Lab	-	-	3	3	1.5	30	70	100
8.	20BT10131	Engineering Geology Lab	-	-	3	3	1.5	30	70	100
9.	20BT1MC01	Universal Human Values (Mandatory Course)	2	-	-	2	-	30	-	30
<b>Total:</b>			<b>17</b>	<b>-</b>	<b>09</b>	<b>26</b>	<b>19.5</b>	<b>270</b>	<b>560</b>	<b>830</b>

## 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.	20BT3BS01	Numerical Methods, Probability and Statistics	3	-	-	3	3	30	70	100
2.	20BT30101	Construction, Planning and Project Management	3	-	-	3	3	30	70	100
3.	20BT30102	Fluid Mechanics and Hydraulic Machinery	3	-	-	3	3	30	70	100
4.	20BT30103	Mechanics of Solids	3	-	-	3	3	30	70	100
5.	20BT30104	Surveying	3	-	-	3	3	30	70	100
6.	20BT30131	Civil Engineering Materials and Construction Technology Lab	-	-	3	3	1.5	30	70	100
7.	20BT30132	Fluid Mechanics and Hydraulic Machinery Lab	-	-	3	3	1.5	30	70	100
8.	20BT30133	Surveying Lab	-	-	3	3	1.5	30	70	100
9.	20BT3HS31	Soft Skills Lab	-	1	2	3	2	30	70	100
<b>Total</b>			<b>15</b>	<b>0</b>	<b>9</b>	<b>27</b>	<b>21.5</b>	<b>270</b>	<b>630</b>	<b>900</b>
10.	20BT3MC01	Environmental Science	2	-	-	2	-	30	-	30

## 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.	20BT40101	Engineering Hydrology	3	-	-	3	3	30	70	100
2.	20BT40102	Environmental Engineering	3	-	-	3	3	30	70	100
3.	20BT40103	Soil Mechanics	3	-	-	3	3	30	70	100
4.	20BT40104	Structural Analysis	3	-	-	3	3	30	70	100
5.	<b>Open Elective-1</b>		3	-	-	3	3	30	70	100
6.	20BT40131	Environmental Engineering Lab	-	-	3	3	1.5	30	70	100
7.	20BT40132	Geotechnical Engineering Lab	-	-	3	3	1.5	30	70	100
8.	20BT40133	Strength of Materials Lab	-	-	3	3	1.5	30	70	100
9.	20BT40134	Advanced Surveying Practice	-	1	2	3	2	30	70	100
<b>Total</b>			<b>15</b>	<b>1</b>	<b>11</b>	<b>24</b>	<b>21.5</b>	<b>270</b>	<b>630</b>	<b>900</b>
10.	20BT315AC	Design Thinking	2	-	-	2	-	-	-	-



### 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.	20BT50101	Foundation Engineering	3	-	-	3	3	30	70	100
2.	20BT50102	Reinforced Cement Concrete Structures	3	-	-	3	3	30	70	100
3.	20BT50103	Transportation Engineering	3	-	-	3	3	30	70	100
4.	<b>Open Elective-2</b>		3	-	-	3	3	30	70	100
5.	<b>Interdisciplinary Elective-1</b>		3	-	-	3	3	30	70	100
	20BT50442	Principles of Image Processing								
	20BT50202	Energy Audit, Conservation and Management								
	20BT70302	Computational Fluid Dynamics								
	20BT50104	Construction Equipment and Automation								
	20BT50105	Pipeline Engineering								
6.	20BT50131	Computer Aided Building Planning and Drawing	-	-	3	3	1.5	30	70	100
7.	20BT50132	Transportation Engineering Lab	-	-	3	3	1.5	30	70	100
8.	20BT50133	MATLAB Practice for Civil Engineers	-	1	2	3	2	30	70	100
9.	20BT50134	Summer Internship	-	-	-	-	1.5	-	100	100
<b>Total</b>			<b>15</b>	<b>1</b>	<b>8</b>	<b>24</b>	<b>21.5</b>	<b>240</b>	<b>660</b>	<b>900</b>
10.	20BT503AC	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.	20BT5HS01	Organizational Behaviour	3	-	-	3	3	30	70	100
2.	20BT60101	Irrigation Engineering and Hydraulic Structures	3	-	-	3	3	30	70	100
3.	20BT60102	Steel Structures	3	-	-	3	3	30	70	100
4.	<b>Professional Elective-1</b>		3	-	-	3	3	30	70	100
	20BT60103	Advanced Structural Analysis								
	20BT60104	Advanced Surveying								
	20BT60105	Air and Noise Pollution and Control								
	20BT60106	Architecture and Town Planning								
	20BT60107	Ground Improvement Techniques								
	20BT60108	Urban Stormwater Management								
	20BT60109	Railway Engineering								
5.	<b>Professional Elective-2</b>		3	-	-	3	3	30	70	100
	20BT60110	Advanced Reinforced Cement Concrete Structures								
	20BT60111	Geoenvironmental Engineering								
	20BT60112	Global Positioning System (GPS)								
	20BT60113	Groundwater Development and Management								
	20BT60114	Rehabilitation and Retrofitting of Structures								
	20BT60115	Solid and Hazardous Waste Management								
	20BT60116	Transportation Planning and Management								
6.	<b>Interdisciplinary Elective-2</b>		3	-	-	3	3	30	70	100
	20BT60314	Optimization Techniques								
	20BT60344	Thermodynamics and Heat Transfer								
	20BT60117	Fire Engineering								
	20BT60118	Intelligent Transportation Systems								
	20BT60119	Smart Materials and Structures								
7.	20BT60131	Civil Engineering Software Lab	-	-	3	3	1.5	30	70	100



8.	20BT60132	Concrete Technology Lab	-	-	3	3	1.5	30	70	100
9.	20BT51551	Internet of Things Lab	-	1	2	3	2	30	70	100
<b>Total</b>			<b>18</b>	<b>1</b>	<b>8</b>	<b>27</b>	<b>23</b>	<b>270</b>	<b>630</b>	<b>900</b>
10.	20BT5MC01	Professional Ethics	2	-	-	2	-	30	-	30

### 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.	20BT5HS02	Principles of Business Economics and Accountancy	3	-	-	3	3	30	70	100
2.	20BT70101	Estimation and Quantity Surveying	3	-	-	3	3	30	70	100
3.	<b>Professional Elective-3</b>									
	20BT70102	Earthquake Resistant Design of Structures								
	20BT70103	Highway Construction and Maintenance								
	20BT70104	Industrial Wastewater Treatment								
	20BT70105	Infrastructure Development and Management	3	-	-	3	3	30	70	100
	20BT70106	Land Survey and Real Estate Development								
	20BT70107	Soil Dynamics and Machine Foundations								
	20BT70108	Sustainable Water Resources Development								
4.	<b>Professional Elective-4</b>									
	20BT70109	Advanced Foundation Engineering								
	20BT70110	Advanced Steel Structures								
	20BT70111	Environmental Hydraulics								
	20BT70112	Pavement Analysis and Design	3	-	-	3	3	30	70	100
	20BT70113	Prestressed Concrete								
	20BT70114	River Engineering and River Basin Management								
	20BT70115	Structural Health Monitoring								
5.	<b>Professional Elective- 5</b>									
	20BT70116	Analysis and Design of Composite Structures								
	20BT70117	Bridge Engineering								
	20BT70118	Civil Infrastructure for Smart City Development								
	20BT70119	Environmental Impact Assessment and Management	3	-	-	3	3	30	70	100
	20BT70120	Geotechnics for Underground Structures								
	20BT70121	Traffic Engineering and Management								
	20BT70122	Water Resources								



		Systems Planning and Management								
6.	20BT70131	Computer Aided Design and Detailing Lab	-	-	3	3	1.5	30	70	100
7.	20BT70132	Remote Sensing and Geographical Information Systems Lab	-	-	3	3	1.5	30	70	100
8.	20BT70123	Geospatial Technologies	2	-	-	2	2	30	70	100
9.	20BT70133	Summer Internship	-	-	-	-	1.5	-	100	100
<b>Total</b>			<b>17</b>	<b>-</b>	<b>6</b>	<b>23</b>	<b>21.5</b>	<b>240</b>	<b>660</b>	<b>900</b>
10.	20BT701AC	Spread Sheet Applications in Civil Engineering	2	-	-	2	-	-	-	-

#### **IV B.Tech. II – Semester**

<b>S. No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Contact Periods per Week</b>				<b>Credits (C)</b>	<b>Scheme of Examination Max. Marks</b>		
			<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>		<b>Int. Marks</b>	<b>Ext. Marks</b>	<b>Total Marks</b>
1.	20BT80131	Project Work	-	-	-	-	12	100	100	200
2.	20BT80132	Internship	-	-	-	-	-	-	-	-
<b>Total</b>			<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12</b>	<b>100</b>	<b>100</b>	<b>200</b>

**LIST OF COURSES FOR  
OPEN ELECTIVE-1 AND OPEN ELECTIVE-2**

Course Code	Open Elective -1	Course Code	Open Elective -2
20BT4BS01	Material Science	20BT4HS01	Banking and Insurance
20BT4HS02	Business Communication and Career Skills	20BT4HS03	Cost Accounting and Financial Management
20BT4HS04	Entrepreneurship for Micro, Small and Medium Enterprises	20BT4HS05	Gender and Environment
20BT4HS06	German Language	20BT4HS07	Indian Economy
20BT4HS08	Indian History	20BT4HS09	Life Skills
20BT4HS10	Personality Development	20BT4HS11	Indian Tradition and Culture
20BT4HS12	Women Empowerment	20BT4HS13	Constitution of India
20BT40205	Reliability and Safety Engineering	20BT50106	Disaster Mitigation and Management
20BT40105	Environmental Pollution and Control	20BT50107	Sustainable Engineering
20BT40106	Planning for Sustainable Development	20BT50108	Contract Laws and Regulations
20BT40107	Rural Technology	20BT50310	Global Strategy and Technology
20BT40305	Human Resource Management	20BT50311	Management Science
20BT50506	Ethical Hacking	20BT40502	Cyber Laws and Security
20BT51205	AI in Healthcare	20BT50206	Intellectual Property Rights
20BT51501	Bioinformatics	20BT50406	Green Technologies

**MINOR DEGREE IN CIVIL ENGINEERING**

	Course Code	Course Title	Contact Periods per Week				Credits (C)
			L	T	P	Total	
<b>Minor Pool</b>	20BTM0101	Engineering Mechanics	3	1	-	4	4
	20BTM0102	Civil Engineering Materials and Concrete Technology	3	1	-	4	4
	20BTM0103	Fluid Mechanics and Hydraulic Machinery	3	1	-	4	4
	20BTM0104	Mechanics of Solids	3	1	-	4	4
	20BTM0105	Surveying	3	1	-	4	4
	20BTM0106	Environmental Engineering	3	1	-	4	4
	20BTM0107	Soil Mechanics	3	1	-	4	4
	20BTM0108	Transportation Engineering	3	1	-	4	4

### **MINOR DEGREE IN SUSTAINABLE ENGINEERING**

	Course Code	Course Title	Contact Periods per Week				Credits (C)
			L	T	P	Total	
<b>Minor Pool</b>	20BTH0109	Sustainable Engineering	3	1	-	4	4
	20BTM0109	Environmental Sustainability	3	1	-	4	4
	20BTM0110	Sustainable Energy Systems	3	1	-	4	4
	20BTM0111	Environmental Economics	3	1	-	4	4
	20BTM0112	Sustainable Cities	3	1	-	4	4
	20BTH0114	Sustainable Design of Technology Systems	3	1	-	4	4

III B.Tech. I - Sem	2 Courses from the above list.	3	1	-	4	4
		3	1	-	4	4
III B.Tech. II - Sem	Any one course from the remaining list.	3	1	-	4	4
	20BTMM011	-	-	-	-	2
IV B.Tech. I - Sem	Another one course from the remaining list.	3	1	-	4	4
	20BTMM012	-	-	-	-	2
<b>Total Credits</b>						<b>20</b>

**Note:** If any student has chosen a course from the above list in their regular curriculum then, he/she is not eligible to opt the same course/s for the Minor degree. It is the responsibility of the student to acquire/complete prerequisite before taking the respective course.



## **HONORS DEGREE IN CIVIL ENGINEERING**

Semester	Course Code	Course Title	Contact Periods per Week				Credits (C)
			L	T	P	Total	
<b>Pool-1</b> III B.Tech. I-Sem (Any 1 Course)	20BTH0101	Advanced Concrete Technology	3	1	-	4	4
	20BTH0102	Risk and Reliability Analysis in Civil Engineering					
	20BTH0103	Pavement Materials					
	20BTH0104	Ecology and Environmental Impact					
	20BTH0105	Computational Methods in Hydraulics and Hydrology					
<b>Pool-2</b> III B.Tech. I-Sem (Any 1 Course)	20BTH0106	Finite Element Methods in Civil Engineering	3	1	-	4	4
	20BTH0107	Rock Mechanics					
	20BTH0108	Airport and Harbour Engineering					
	20BTH0109	Sustainable Engineering					
	20BTH0110	Advanced Hydraulics					
<b>Pool-3</b> III B.Tech.II-Sem (Any 1 Course and another 1 course through MOOC )	20BTH0111	Offshore Structures	3	1	-	4	4
	20BTH0112	Geosynthetics and Reinforced Soil Structures					
	20BTH0113	Urban Transportation and Planning					
	20BTH0114	Sustainable Design of Technology Systems					
	20BTH0115	Watershed Management					
	20BTHM011		-	-	-	-	2
<b>Pool-4</b> IV B.Tech.I-Sem (Any 1 Course and another 1 course through MOOC )	20BTH0116	Prefabricated Structures	3	1	-	4	4
	20BTH0117	Geotechnical Earthquake Engineering					
	20BTH0118	Transportation Safety					
	20BTH0119	Land fill Engineering Systems					
	20BTH0120	Hydropower Engineering					
	20BTHM012		-	-	-	-	2
<b>Total Credits</b>							<b>20</b>

**Note:** If any student has chosen a course from the above list in their regular curriculum then, he/she is not eligible to opt the same course/s for the Honors degree. It is the responsibility of the student to acquire/complete prerequisite before taking the respective course.



**BOS Chairman**

**LIST OF NEW COURSES INTRODUCED**

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

**Regulations :SVEC-20**

S. No.	Course Code	Name of the course
1.	20BT20541	Programming in C and Data Structures
2.	20BT20551	Programming in C and Data Structures Lab
3.	20BT30131	Civil Engineering Materials and Construction Technology Lab
4.	20BT40134	Advanced Surveying Practice
5.	20BT50133	MATLAB Practice for Civil Engineers



BOS Chairman