Programme Structure for B Tech.: First Year Engineering

Semester I: Teaching Scheme

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		Th	Pr	Tu	Th	Pr	Tu	Total credits
U01BS101	Applied Mathematics I	3	-	-	3	-	-	3
U01BS001 U01BS002	Applied Chemistry OR Applied Physics	3	-	-	3	-	-	3
U01ES001 U01ES002	Engineering Mechanics OR Engineering Graphics	2	-	-	2	-	-	2
U01ES003 U01ES004	Basic Civil and Mechanical Engineering OR Basic Electrical and Electronics Engineering	3	-	-	3	-	-	3
U01BS003 U01BS004	Applied Chemistry Lab OR Applied Physics Lab	-	2	-	-	1	-	1
U01ES005 U01ES006	Engineering Mechanics Lab OR Engineering Graphics Lab	-	4	-	-	2	-	2
U01ES007 U01ES008	Basic Civil and Mechanical Engineering Lab OR Basic Electrical and Electronics Engineering Lab	-	2	-	-	1	-	1
U03AE001 U01IK001	Professional Communication OR Indian Science, Engineering and Technology (Past, Present and Future)	2*	-	-	2	-	-	2
U01VS001 U01VS002	Workshop Practice-I:C Programming OR Workshop Practice-II: Basic Engineering Practices	-	4	-	-	2	-	2
U04CC0XX	Co-curricular Courses I	-	4	-	-	2	-	2
U03VE001	Constitution of India	2	-	-	2	-	-	2
U03VE002	Universal Human Values-I#	-	-	-				**Audit Course**
	Total	**15**	**16**	**-**	**15**	**8**	**-**	**23**

- ***Out of 2 hours, 1 hour theory shall be taught to entire class followed by 1 hrs. Practical in batches,Th: Theory, Pr: Practical, Tu: Tutorial**
- **#During the Induction Program, students would get an initial exposure to human values through Universal Human Values-I.**

Semester I: Evaluation Scheme

Course Code	Course Name	Theory Marks					Practical Marks		Total
		Internal Assessment				ESE	Term work	Practical Oral/POE	
		T1	T2	FET	Total				
U01BS101	Applied Mathematics I	10	10	5	25	50	-	-	75
U01BS001 U01BS002	Applied Chemistry OR Applied Physics	10	10	5	25	50	-	-	75
U01ES001 U01ES002	Engineering Mechanics OR Engineering Graphics	-	10	5	15	35	-	-	50
U01ES003 U01ES004	Basic Civil and Mechanical Engineering OR Basic Electrical and Electronics Engineering	10	10	5	25	50	-	-	75
U01BS003 U01BS004	Applied Chemistry Lab OR Applied Physics Lab	-	-	-	-	-	25	-	25
U01ES005 U01ES006	Engineering Mechanics Lab OR Engineering Graphics Lab	-	-	-	-	-	50	-	50
U01ES007 U01ES008	Basic Civil and Mechanical Engineering Lab OR Basic Electrical and Electronics Engineering Lab	-	-	-	-	-	25	-	25
U03AE001 U01IK001	Professional Communication OR Indian Science, Engineering and Technology (Past, Present and Future)	-	10	5	15	35	-	-	50
U01VS001 U01VS002	Workshop Practice-I:C Programming OR Workshop Practice-II: Basic Engineering Practices	-	-	-	-	-	50	-	50
U04CC0XX	Co-curricular courses I	-	-	-	-	-	50	-	50
U03VE001	Constitution of India	10	-	5	15	35	-	-	50
U03VE002	Universal Human Values-I	-	-	-	-	-	-	-	**Audit Course**
									575

- **Minimum passing is 40% for all courses and evaluation head mentioned above. FET – Faculty evaluation for Theory, T1, T2, Continuous Assessment Test, Term Work , ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course**

Programme Structure for B Tech.: First Year Engineering
Semester II: Teaching Scheme

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		Th	Pr	Tu	Th	Pr	Tu	Total Credits
U01BS201	Applied Mathematics II	3	-	-	3	-	-	3
U01BS001 OR U01BS002	Applied Chemistry OR Applied Physics	3	-	-	3	-	-	3
U01ES001 OR U01ES002	Engineering Mechanics OR Engineering Graphics	2	-	-	2	-	-	2
U01ES003 OR U01ES004	Basic Civil and Mechanical Engineering OR Basic Electrical and Electronics Engineering	3	-	-	3	-	-	3
U01BS003 OR U01BS004	Applied Chemistry Lab OR Applied Physics Lab	-	2	-	-	1	-	1
U01ES005 OR U01ES006	Engineering Mechanics Lab OR Engineering Graphics Lab	-	4	-	-	2	-	2
U01ES007 OR U01ES008	Basic Civil and Mechanical Engineering Lab OR Basic Electrical and Electronics Engineering Lab	-	2	-	-	1	-	1
U03AE001 OR U01IK001	Professional Communication OR Indian Science, Engineering and Technology (Past, Present and Future)	2*	-	-	2	-	-	2
U01VS001 OR U01VS002	Workshop Practice-I:C Programming OR Workshop Practice-II: Basic Engineering Practices	-	4	-	-	2	-	2
U04CC0XX	Co-curricular courses II	-	4	-	-	2	-	2
	Total	**13**	**16**		**13**	**8**		**21**

- ***Out of 2 hours, 1 hour Theory shall be taught to entire class followed by 1 hrs. Practical in batches, Th: Theory, Pr: Practical, Tu: Tutorial**

Semester II: Evaluation Scheme

Course Code	Course Name	Theory Marks					Practical Marks		Total
		Internal Assessment				ESE	Term work	Practical Oral/POE	
		T1	T2	FET	Total				
U01BS201	Applied Mathematics II	10	10	5	25	50	-	-	75
U01BS001 U01BS002	Applied Chemistry OR Applied Physics	10	10	5	25	50	-	-	75
U01ES001 U01ES002	Engineering Mechanics OR Engineering Graphics	-	10	5	15	35	-	-	50
U01ES003 U01ES004	Basic Civil and Mechanical Engineering OR Basic Electrical and Electronics Engineering	10	10	5	25	50	-	-	75
U01BS003 U01BS004	Applied Chemistry Lab OR Applied Physics Lab	-	-	-	-	-	25	-	25
U01ES005 U01ES006	Engineering Mechanics Lab OR Engineering Graphics Lab	-	-	-	-	-	50	-	50
U01ES007 U01ES008	Basic Civil and Mechanical Engineering Lab OR Basic Electrical and Electronics Engineering Lab	-	-	-	-	-	25	-	25
U03AE001 U01IK001	Professional Communication OR Indian Science, Engineering and Technology (Past, Present and Future)	-	10	5	15	35	-	-	50
U01VS001 U01VS002	Workshop Practice-I:C Programming OR Workshop Practice-II: Basic Engineering Practices	-	-	-	-	-	50	-	50
U04CC0XX	Co-curricular courses II	-	-	-	-	-	50	-	50

- **Minimum passing is 40% for all courses and evaluation head mentioned above. FET – FET – Faculty evaluation for Theory, T1, T2, Continuous Assessment Test, Term Work, ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course**

Exit Option:

Students will have the flexibility to enter a Programme in odd semesters and exit a Programme

after the successful completion of even semesters as per their future career needs. Students exiting the First-Year program after securing minimum 40 credits will be awarded UG Certificate in the relevant Discipline /Subject provided they secure 8 credits in work-based vocational courses or internship / Apprenticeship offered during summer vacation in addition to 4 credits from skill-based courses earned during the first and second semester.

Programme structure for B. Tech. Civil Engineering

Second Year Civil Engineering Programs Semester III: Teaching Scheme

Course code	Course name	Teaching scheme (Hrs/week)			Credits assigned			
		Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total credits
U13PC301	Structural Mechanics	3	-	-	3	-	-	3
U13PC302	Building Design and Drawing	3	-	-	3	-	-	3
U13PC303	Engineering Surveying	3	-	-	3	-	-	3
UXXMM0XX	Multidisciplinary Minor I	2	-	-	2	-	-	2
UXXOE01X	Open Elective I	2	-	-	2	-	-	2
U02EM001	Engineering Economics	2	-	-	2	-	-	2
U13PC304	Structural Mechanics Lab	-	2	-	-	1	-	1
U13PC305	Building Design and Drawing Lab	-	4	-	-	2	-	2
U01VE003	Environmental Science	2	-	-	2	-	-	2
U13FP001	Field Project		4	-	-	2	-	2
	Total	17	10		17	5		22

Second Year Civil Engineering Programs Semester III: Evaluation Scheme

Course code	Course name	*Theory Marks*					*Practical Marks*		Total
		Internal Assessment				ESE	Term work	Practical/ Oral POE	
		T1	T2	FET	Total				
U13PC301	Structural Mechanics	10	10	5	25	50	-	-	75
U13PC302	Building Design and Drawing	10	10	5	25	50	-	-	75
U13PC303	Engineering Surveying	10	10	5	25	50	-	-	75
UXXMM0XX	Multidisciplinary Minor I	-	10	5	15	35	-	-	50
UXXOE01X	Open Elective I	-	10	5	15	35	-	-	50
U02EM001	Engineering Economics	-	10	5	15	35	-	-	50
U13PC304	Structural Mechanics Lab	-	-	-	-	-	25	-	25
U13PC305	Building Design and Drawing Lab	-	-	-	-	-	25	25	50
U01VE003	Environmental Sciences	-	10	5	15	35	-	-	50
U13FP001	Field Project	-	-	-	-	-	25	25	50
									550

* Minimum passing is 40% for all courses and evaluation head mentioned above. FET – Faculty evaluation for Theory , T1, T2, Continuous Assessment Test, Term Work , ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course

Second Year Civil Engineering Programs Semester IV: Teaching Scheme

Course code	Course name	Teaching scheme (Hrs/week)			Credits assigned			
		Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total credit
U13PC401	Fluid Mechanics	3	-	-	3	-	-	3
U13PC402	Geotechnical Engineering	3	-	-	3	-	-	3
U13PC403	Theory of Structure	2	-	-	2	-	-	2
UXXMM0XX	Multidisciplinary Minor II	2	-	-	2	-	-	2
UXXOE02XX	Open Elective II	2	-	-	2	-	-	2
U02EM002	Engineering Management	2	-	-	2	-	-	2
U13VS401	Software Proficiency I	-	4	-	-	2	-	2
U13PC404	Fluid Mechanics Lab	-	2	-	-	1	-	1
U13PC405	Geotechnical Engineering Lab	-	2	-	-	1	-	1
U03AE003 U03AE005	Modern Indian Language – Hindi OR Modern Indian Language – Marathi	2	-	-	2	-	-	2
U03VE004	Universal Human Values II	2	-	-	2	-	-	2
	Total	18	8		18	4		22

Second Year Civil Engineering Programs Semester IV: Evaluation Scheme

Course code	Course name	*Theory Marks*					*Practical Marks*		Total
		Internal Assessment				ESE	Term work	Practical /Oral POE	
		T1	T2	FET	Total				
U13PC401	Fluid Mechanics	10	10	5	25	50	-	-	75
U13PC402	Geotechnical Engineering	10	10	5	25	50	-	-	75
U13PC403	Theory of Structure	-	10	5	15	35	-	-	50
UXXMM0XX	Multidisciplinary Minor II	-	10	5	15	35	-	-	50
UXXOE02XX	Open Elective II	-	10	5	15	35	-	-	50
U01EM002	Engineering Management	-	10	5	15	35	-	-	50
U13VS401	Software Proficiency I	-	-	-	-	-	25	25	50
U13PC404	Fluid Mechanics Lab	-	-	-	-	-	25	-	25
U13PC405	Geotechnical Engineering Lab	-	-	-	-	-	25	-	25
U03AE003 U03AE005	Modern Indian Language – Hindi OR Modern Indian Language – Marathi	-	--	--	--	50	-	-	50
U03VE004	Universal Human Values II	-	10	5	15	35	-	-	50
									550

- Minimum passing is 40% for all courses and evaluation head mentioned above. FET – Faculty evaluation for Theory , T1, T2, Continuous Assessment Test, Term Work , ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course

Exit Option:

- Students will have the flexibility to enter a programme in odd semesters and exit a programme after the successful completion of even semesters as per their future career needs.
- Students exiting the Second Year Programme after securing minimum 80 credits will be awarded UG Diploma in the relevant Discipline /Subject provided they secure additional 8 credits in skill-based vocational courses (skill-based courses, internship, mini projects etc) offered during summer vacation after the second year.

Third Year Civil Engineering Programs Semester V: Teaching Scheme

Course code	Course name	Teaching scheme (Hrs/week)			Credits assigned			
		Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total Credits
U13PC501	Environmental Engineering	3	-	-	3	-	-	3
U13PC502	Transportation Engineering	3	-	-	3	-	-	3
U13PC503	Concrete Technology	3	-	-	3	-	-	3
U13PE5XX	Program Elective I	3	-	-	3	-	-	3
UXXMM0XX	Multidisciplinary Minor III	2	-	-	2	-	-	2
UXXOE03XX	Open Elective III	2	-	-	2	-	-	2
U13PC504	Environmental Engineering Lab	-	2	-	-	1	-	1
U13PC505	Transportation Engineering Lab	-	4	-	-	2	-	2
U13PC506	Concrete Technology Lab	-	4	-	-	2	-	2
	Total	16	10		16	5		21

Third Year Civil Engineering Programs Semester V: Evaluation Scheme

Course code	Course name	*Theory Marks*					*Practical Marks*		Total
		Internal Assessment				ESE			
		T1	T2	FET	Total		Term work	Practical Oral/POE	
U13PC501	Environmental Engineering	10	10	5	25	50	-	-	75
U13PC502	Transportation Engineering	10	10	5	25	50	-	-	75
U13PC503	Concrete Technology	10	10	5	25	50	-	-	75
U13PE5XX	Program Elective I	10	10	5	25	50	-	-	75
UXXMM0XX	Multidisciplinary Minor III		10	5	15	35			50
UXXOE03XX	Open Elective III		10	5	15	35	-	-	50
U13PC504	Environmental Engineering Lab	-	-	-	-	-	25	-	25
U13PC505	Transportation Engineering Lab	-	-	-	-		25	25	50
U13PC506	Concrete Technology Lab	-	-	-	-	-	25	25	50
									525

- Minimum passing is 40% for all courses and evaluation head mentioned above. FET – Faculty evaluation for Theory, T1, T2, Continuous Assessment Test, FEP, Faculty Evaluation for Practical, ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course

List of Program Electives I

Vertical I Structural Engineering)		**Vertical II (Construction Engineering and Management)**		**Vertical III (Environmental and Water Resources Engineering)**	
Code	**Course Name**	**Code**	**Course Name**	**Code**	**Course Name**
U13PE511	Site Investigation Methods and Practices	U13PE521	Quality and safety management	U13PE531	Environmental Impact Assessment
U13PE512	Advanced Foundation Engineering	U13PE522	Building Services	U13PE532	Water Power Engineering

Third Year Civil Engineering Programs Semester VI: Teaching Scheme

Course code	Course name	Teaching scheme (Hrs/week)			Credits assigned			
		Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total credits
U13PC601	Design of Steel Structure	3	-	-	3	-	-	3
U13PC602	Water Resources Engineering	3	-	-	3	-	-	3
U13PC603	Construction Management	3	-	-	3	-	-	3
U13PE6XX	Program Elective II	3	-	-	3	-	-	3
U13PE6XX	Program Elective III	3	-	-	3	-	-	3
UXXMM0XX	Multidisciplinary Minor IV	2	-	-	2	-	-	2
U13VS601	Software Proficiency II	-	4	-	-	2	-	2
U13PC604	Design of Steel Structure Lab	-	4	-	-	2	-	2
U13PC605	Construction Management Lab	-	2	-	-	1	-	1
Total		17	10	-	17	5	-	22

Third Year Civil Engineering Programs Semester VI: Evaluation Scheme

Course code	Course name	*Theory Marks*					*Practical Marks*		Total
		Evaluation (Theory)				ESE	Evaluation (Lab)		
		T1	T2	FET	Total		Term work	Practical Oral/POE	
U13PC601	Design of Steel Structure	10	10	5	25	50	-	-	75
U13PC602	Water Resources Engineering	10	10	5	25	50	-	-	75
U13PC603	Construction Management	10	10	5	25	50	-	-	75
U13PE6XX	Program Elective II	10	10	5	25	50	-	-	75
U13PE6XX	Program Elective III	10	10	5	25	50	-	-	75
UXXMM0XX	Multidisciplinary Minor IV	-	10	5	15	35			50
U13VS601	Software Proficiency II	-	-	-	-	-	25	25	50
U13PC604	Design of Steel Structure Lab	-	-	-	-		25	25	50
U13PC605	Construction Management Lab	-	-	-	-	-	25		25
									550

* Minimum passing is 40% for all courses and evaluation head mentioned above. FET – Faculty evaluation for Theory, T1, T2, Continuous Assessment Test, FEP, Faculty Evaluation for Practical, ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course

Exit Option:

- Students will have the flexibility to enter a programme in odd semesters and exit a programme after the successful completion of even semesters as per their future career needs.
- Students exiting the 3-year UG program will be awarded B.Voc. in the relevant Discipline /Subject upon securing minimum 120 credits with additional 8 credits in skill-based vocational courses (skill-based courses, internship, mini projects etc.) offered during summer vacation after the sixth semester.

List of Program Electives II

Vertical I Structural Engineering)		Vertical II (Construction Engineering and Management)		Vertical III (Environmental and Water Resources Engineering)	
Course Name	**Code**	**Course Name**	**Code**	**Course Name**	**Environmental and Water Resources Engineering**
U13PE611	Advanced Concrete Technology	U13PE621	Advanced Traffic Engineering	U13PE631	Watershed Management
U13PE612	Earthquake Engineering	U13PE622	Human Resource Management	U13PE632	Solid and Hazardous Waste Management

List of Program Electives III

Vertical I Structural Engineering)		Vertical II (Construction Engineering and Management)		Vertical III (Environmental and Water Resources Engineering)	
Course Name	**Code**	**Course Name**	**Code**	**Course Name**	**Environmental and Water Resources Engineering**
U13PE613	Condition Assessment and rehabilitation of structures	U13PE623	Advanced construction techniques	U13PE633	River Mechanics and Control Structures
U13PE614	Design of RCC Bridges	U13PE624	Construction Equipment and Methods	U13PE634	Remote Sensing and GIS GPS

Final Year Civil Engineering Programs Semester VII: Teaching Scheme

Course code	Course name	Teaching scheme (Hrs/week)			Credits assigned			
		Th	Pr	Tu	Th	Pr	Tu	Total credits
U13PC701	Design of Concrete Structure	3	-	-	3	-	-	3
U13PC702	Quantity Survey and Valuation	3	-	-	3	-	-	3
U13PE7XX	Program Elective IV	3	-	-	3	-	-	3
U01RM701	Research Methodology	3	-	-	3	-	-	3
UXXMM0XX	Multidisciplinary Minor V	2	-	-	2	-	-	2
U13PC703	Design of Concrete Structure Lab	-	4	-	-	2	-	2
U13PC704	Quantity Survey and Valuation Lab	-	4	-	-	2	-	2
U13PE7XX	Program Elective IV Lab	-	4	-	-	2	-	2
U13PR701 OR U13EP701 OR U13RE701	Project Phase I (Industry Internship with Capstone Project Track) OR Entrepreneurship Project Phase I (Entrepreneurship Venture Track) OR Research Project Phase I (Higher Opportunity Track)	-	4	-	-	2	-	2
	Total	14	14		14	6		22

Final Year Civil Engineering Programs Semester VII: Evaluation Scheme

Course code	Course name	*Theory Marks*					*Practical Marks*		Total
		Evaluation (Theory)				ESE	Term work	Practical OE/POE	
		T1	T2	FET	Total				
U13PC701	Design of Concrete Structure	10	10	5	25	50	-	-	75
U13PC702	Quantity Survey and Valuation	10	10	5	25	50	-	-	75
U13PE7XX	Program Elective IV	10	10	5	25	50	-	-	75
U04RM701	Research Methodology	10	10	5	25	50	-	-	75
UXXMM0XX	Multidisciplinary Minor V	-	10	5	15	35	-	-	50
U13PC703	Design of Concrete Structure Lab	-	-	-	-	-	25	25	50
U13PC704	Quantity Survey and Valuation Lab	-	-	-	-		25	25	50
U13PE7XX	Program Elective IV Lab	-	-	-	-	-	50	-	50
U13PR701 OR U13EP701 OR U13RE701	Project Phase I (Industry Internship with Capstone Project Track) OR Entrepreneurship Project Phase I (Entrepreneurship Venture Track) OR Research Project Phase I (Higher Opportunity Track)	-	-	-	-	-	50	-	50
									550

- Minimum passing is 40% for all courses and evaluation head mentioned above. FET – Faculty evaluation for Theory, T1, T2, Continuous Assessment Test, FEP, Faculty Evaluation for Practical, ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course

Note: The Evaluation of Project Phase I is divided into two parts (Internal Assessment)

a) Preparation and presentation of the proposal of the Project (Motivation/ Relevance, Problem Statement, Literature Survey, Objectives, Methodology and design of the project) for 25marks.

b) Student shall present a seminar on the topic relevant to the Project work for 25 marks.

List of Program Electives IV

Vertical I Structural Engineering)		**Vertical II (Construction Engineering and Management)**		**Vertical III (Environmental and Water Resources Engineering)**	
Course Name	**Code**	**Course Name**	**Code**	**Course Name**	**Environmental and Water Resources Engineering**
U13PE711	Advanced concrete structure	U13PE721	Project Appraisal	U13PE731	Water Power Engineering
U13PE712	Pre-stressed Concrete Design	U13PE722	Entrepreneurship Development	U13PE732	River Mechanics and Control Structures

List of Program Electives IV Lab

Vertical I Structural Engineering)		**Vertical II (Construction Engineering and Management)**		**Vertical III (Environmental and Water Resources Engineering)**	
Course Name	**Code**	**Course Name**	**Code**	**Course Name**	**Environmental and Water Resources Engineering**
U13PE713	Advanced concrete structure Lab	U13PE723	Project Appraisal Lab	U13PE733	Water Power Engineering Lab
U13PE714	Pre-stressed Concrete Design Lab	U13PE724	Entrepreneurship Development Lab	U13PE734	River Mechanics and Control Structures Lab

Final Year Civil Engineering Programs Semester VIII: Teaching Scheme

Track I: Industry Internship with Capstone Project Track

Course code	Course name	Teaching			Credits assigned			
		Th	Pr	Tu	Th	Pr	Tu	Total credits
U13PE8XX	Program Elective V (Online Mode / MOOCs)	3	-	-	3	-	-	3
UXXMM0XX	Multidisciplinary Minor VI (Online Mode / MOOCs)	2	-	-	2	-	-	2
U13PR801	Project Phase- II	-	8	-	-	4	-	4
U13OT801	Internship/On job Training	-	24	-	-	12	-	12
	Total	5	32	-	5	16	-	21

Final Year Civil Engineering Programs Semester VIII: Evaluation Scheme

Course code	Course name	*Theory Marks*					Practical Marks		Total
		Evaluation (Theory)				ESE	Evaluation (Lab)		
		T1	T2	FET	Total		Term work	Practical OE/POE	
U13PE8XX	Program Elective V (Online Mode / MOOCs)	10	10	5	25	50	-	-	75
UXXMM0XX	Multidisciplinary Minor VI (Online Mode / MOOCs)	10	-	5	15	35	-	-	50
U13PR801	Project Phase- II	-	-	-	-	-	50	50	100
U13OT801	Internship/On job Training	-	-	-	-	-	200	100	300
									525

* Minimum passing is 40% for all courses and evaluation head mentioned above. FET – Faculty evaluation for Theory, T1, T2, Continuous Assessment Test, FEP, Faculty Evaluation for Practical, ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course

- Additional Credits for Bachelor's Degree- with Double Minor 12 Credits.

These are additional credits to be offered from the second year to the final year and will be offered as an option to students.

- Additional Credits for Bachelor's Degree- with Honors: 16-20 Credits.

These are additional credits from same domain to be offered from the second year to the final year and will be offered as an option to students.

- Additional Credits for Bachelor's Degree- Honors with Research: Minimum 16-20 Credits.

These are additional credits to be offered in the final year and will be offered as an option to students.

List of Program Electives V

Vertical I Structural Engineering)		Vertical II (Construction Engineering and Management)		Vertical III (Environmental and Water Resources Engineering)	
Course Name	**Code**	**Course Name**	**Code**	**Course Name**	**Environmental and Water Resources Engineering**
U13PE811	Non-Destructive Testing of Materials	U13PE821	Construction Economics & Finance	U13PE831	Environmental Geotechnics
U13PE812	Numerical in Civil Engineering	U13PE822	Legal aspect in construction	U13PE832	Advanced Surveying

Note: The Program Elective V and Multidisciplinary Minor VI shall be conducted in online mode, by faculty of SGU or other institute/ University. Students can also opt a course from MOOCs platforms such as SWAYAM, NPTEL, Coursera etc. In case there is no assessment and examination conducted by the MOOCs platforms then the assessment and examination will be conducted by SGU.

Programme structure for B. Tech: Final Year Civil Engineering Semester VIII: Teaching Scheme

Track II: Entrepreneurship Venture Track

Course code	Course name	Teaching scheme (Hrs/week)			Credits assigned			
		Th	Pr	Tu	Th	Pr	Tu	Total
U11PE8XX	Program Elective V (Online Mode / MOOCs)	3	-	-	3	-	-	3
UXXMM0XX	Multidisciplinary Minor VI (Online Mode /MOOCs)	2	-	-	2	-	-	2
U11EP801	Online Course in Advanced Technology (domain area)	-	-	-	4	-	-	4
U11EP802	Entrepreneurship project Phase II	-	24	-	-	12	-	12
Total		**5**	**24**	**-**	**9**	**12**	**-**	**21**

Th: **Th: Theory, Pr: practical, Tu: Tutorial**

Course code	Course name	*Theory Marks*					Practical Marks		Total
		Evaluation (Theory)				ESE	Evaluation (Lab)		
		T1	T2	FET	Total		Term work	Practical OE/POE	
U11PE8XX	Program Elective V (Online Mode / MOOCs)	10	10	5	25	50	-	-	75
UXXMM0XX	Multidisciplinary Minor VI (Online Mode / MOOCs)	10	-	5	15	35	-	-	50
U11EP801	Online Course in Advanced Technology (domain area)	-	-	-	-	-	50	50	100
U11EP802	Entrepreneurship project Phase II	-	-	-	-	-	200	100	300
									525

Minimum passing is 40% for all courses and evaluation head mentioned above. FET – Faculty evaluation for Theory , T1, T2, Continuous Assessment Test, FEP, Faculty Evaluation for Practical, ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course

- Additional Credits for Bachelor's Degree- with Double Minor 12 Credits.
  These are additional credits to be offered from the second year to the final year and will be offered as an option to students.
- Additional Credits for Bachelor's Degree- with Honors: 16-20 Credits.
  These are additional credits from same domain to be offered from the second year to the final year and will be offered as an option to students.
- Additional Credits for Bachelor's Degree- Honors with Research: Minimum 16-20 Credits.

These are additional credits to be offered in the final year and will be offered as an option to students

Programme structure for B. Tech: Final Year Civil Engineering Semester VIII: Teaching Scheme

Track III: Higher Opportunity Track

Course code	Course name	Teaching scheme (Hrs/week)			Credits assigned			
		Th	Pr	Tu	Th	Pr	Tu	Total
U11PE8XX	Program Elective V (Online Mode / MOOCs)	3	-	-	3	-	-	3
UXXMM0XX	Multidisciplinary Minor VI (Online Mode / MOOCs)	2	-	-	2	-	-	2
U11RE801	Online Course in Advanced Technology (domain area)	-	-	-	4	-	-	4
U11RE802	Research Project Phase II	-	24	-	-	12	-	12
	Total	**5**	**24**	**-**	**9**	**12**	**-**	**21**

Final Year Civil Engineering Programs Semester VIII: Evaluation Scheme

Track III: Higher Opportunity Track

Course code	Course name	*Theory Marks*					Practical Marks		Total
		Evaluation (Theory)				ESE	Evaluation (Lab)		
		T1	T2	FET	Total		Term work	Practical Oral/POE	
U11PE8XX	Program Elective V (Online Mode / MOOCs)	10	10	5	25	50	-	-	75
UXXMM0XX	Multidisciplinary Minor VI (Online Mode / MOOCs)	10	-	5	15	35	-	-	50
U11RE801	Online Course in Advanced Technology (domain area)	-	-	-	25	75	-	-	100
U11RE802	Research Project Phase II	-	-	-	-	-	200	100	300
									525

* Minimum passing is 40% for all courses and evaluation head mentioned above.

FET – Faculty evaluation for Theory , T1, T2, Continuous Assessment Test, FEP, Faculty Evaluation for Practical, ESE - End Semester Examination, P/F – Pass/ Fail Course, AU – Audit Course

- Additional Credits for Bachelor's Degree- with Double Minor 12 Credits.

  These are additional credits to be offered from the second year to the final year and will be offered as an option to students.
- Additional Credits for Bachelor's Degree- with Honors: 16-20 Credits.

  These are additional credits from same domain to be offered from the second year to the final year and will be offered as an option to students.
- Additional Credits for Bachelor's Degree- Honors with Research: Minimum 16-20 Credits.

  These are additional credits to be offered in the final year and will be offered as an option to students.

Semester	Credit	Mark
I	23	575
II	21	525
III	22	550
IV	22	550
V	21	525
VI	22	550
VII	22	550
VIII	21	525
	174	4350