

#### Course Structure-B.Tech Civil Engineering Semester – III

					Teach (H	ing S			Exa	minatio	on Schem	e	Tetal
S	r. o.	Core	Course Code	Course Name	L	Т	P	C	Form: Assess CIA	ment	Summative Assessment ESE		Total Marks
	120								Course	Lab	Course	Lab	
		DOO	NYCE301	Uvdraulies	2	1	0	3	50	-	100	-	100
	1	PCC	1		2	1	0	3	50	-	100	-8	100
	2	PCC	NYCE302	Mechanics of Materials							100		100
	3	PCC	NYCE303	Building Planning and drawing	2	-	-	2	50	-	100	-	
-	1	OE	_	Open Elective-I	3	0	0	3	50	-	100	-	100
	4			Minor course 1	2	0	0	2	50	-	100	-	100
	5	MDM	-		0	0	2	1	-	50	-	50*	100
	6	PCC	NYCE311	Hydraulics Laboratory		0		ļ.,					
	7	PCC	NYCE312	Mechanics of Materials  Laboratory	0	0	2	1	-	50	-	50*	100
	8	VEC	NLWV01	The Constitution & Human Right	s 2	0	0	2	50	-	100	-	100
	9	VSEC	NYCE313	Building Planning and drawing Laboratory	0	0	4	2	-	50	-	50*	100
	10	AEC	NHSA11	Key Competencies for Caree	0	0	4	2	-	50	-	50*	100
	11	CEP/FP	NYCE314	Community Engagement Project*/Field Project*			4	2	2	50		50*	
				TOTAL	13	02	10	5 2	3 300	250	600	250	110
				Value A	dded (	Cours	e						
	12	VAC		Civil plan drafting with AutoCAE		-	2	2		-	-	-	-

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			Formative	Assessment
1	*: Oral Examination	CIA	Weightage	Description
CIA: Continuous Internal Assessment	PCC: Program Core course	CIA 1	10%	Home Assignment
L: Theory Lecture	OE:Open Elective	CIA 2	20%	Written Exam
T: Tutorial		CIA 3	10%	Seminar Presentation
P: Practical ESE: End Semester Exam	AEC : AbilityEnhancement curses CEP/FP:Communityencougement project/Field project	CIA 4	10%	Behavioural     Attitude + Genera     Discipline (5%)     Theory + practica     attendance 5%)
	VSEC: Vocational and Skill Enhancement Course MDM: Multidisciplinary minor course	TOTAL	50%	

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#### Course Structure-B. Tech Civil Engineering Semester – IV

v. I					Teach	ing s./W	Scho Veek	eme ()		Exan	ninatio	n Schem		Total
Sr. No.		Core	Course Code	Course Name	L	T	P		;	Forma Assess CIA	ment	Summative Assessment ESE		Marks
										Course	Lab	Course	Lab	
				1 A salavaio	2	1	1-	3	3	50	-	100	-	100
1		PCC		Structural Analaysis	3		-	+3	3	50	-	100	-	100
2	$\dagger$	PCC	NYCE402	Geotechnical Engineering			-	+	3	50	_	100	-	100
3	+	PCC	NYCE403		3	_	_	+	_					100
	+	PCC	NYCE404	Modern Construction Materials	3	0	0		3	50	-	100	-	100
4		100	1,702	& concrete technology	3	-	+-	+	3	50	_	100	-	100
5	;	OE	-	Open Elective-II		_		_	_					100
-	5	VSEC	NYCE411	Modern Construction Materials & concrete technology Laboratory		-	2	2	1	-,	50	-	50*	100
'					2	0	+		2	50	-	100	-	100
,	7	MDM	-	Minor course 2	-	+-		2	1				50*	100
		PCC	NYCE412	Geotechnical Engineering						-	50	-	30	100
	8	PCC	NI CE III	Laboratory		+		2	1	_	50	-	50*	100
-	9	VSEC	NYCE413					-	<u>.</u>		+			
-		VEC	NHSA12	Strategic Communication for	0	(	)	4	2	-	50	-	50*	100
_	10	, 20		professionals	-	-		10	22	250	250	500	250	1000
				TOTAL	10			10		250				
-	-		Added	Cou	irse									
	11	VAC		Google Sketchup			-	2	-	-	-	-	-	-

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		Formative Assessment						
CIA: Continuous Internal	*: Oral Examination	CIA	Weightage	Description				
Assessment	PC: Program Core course	CIA 1	10%	Home Assignment				
		CIA 2	20%	Written Exam				
L: Theory Lecture	PEC: Programme elective Core	CIA 3	10%	Seminar Presentation				
T: Tutorial	OE:Open Elective			<ul> <li>Behavioural</li> </ul>				
P: Practical	VAC: Value Added Courses			Attitude + General				
ESE: End Semester Exam	AEC : AbilityEnhancement curses	CIA 4	10%	Discipline (5%)				
ESE. Elid Selliestel Exam	,			• Theory + practical				
	CEP/FP:Communityencougement			attendance 5%)				
	project/Field project							
	VSEC: Vocational and Skill							
	Enhancement Course	TOTAL	50%					
	MDM: Multidisciplinary							
	minor course							

Date -31/5/2025

#### Exit option:

- ✓ Award of UG Certificate in exiting the First Year programme after securing minimum 40 credits will be awarded UG Certificate in the Civil Engineeirng provided they secure 8 credits in work-based vocational courses or internship / Apprenticeship offered during summer vacation in addition to 4 credit from skill based courses earn during first and second semester. Refer Annexur 1
- ✓ Students exiting the Second Year Programme after securing minimum 80 credits will be awarded UG Diploma in the Civil Engineering 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. Refer Annexur 1

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#### Course Structure-B. Tech Civil Engineering Semester – V

					Teach (H	ning rs./V	Sch Veek	emo	e	Exan	ninatio	n Schem		Total
Sr. No.	(	Core	Course Code	Course Name	L	Т	P		С	Forma Assess CIA	ment	Summative Assessment ESE		Marks
					ag tro		100			Course	Lab	Course	Lab	HEET'S
			47	100 V	3	-	-	+	3	50	_	100	-	100
1		PCC	NYCE501	Environmental Engineering I			_	_	3			100	_	100
2	+	PCC	NYCE502	Design of Steel Structures	2	1	_		3	50	-	100		
2	_	PCC			3	-	-		3	50	-	100	-	100
3		PCC	NYCE503	Hydrology and Irrigation Planning	3	+-	+	+	3	50	_	100	-	100
4		PCC	NYCE504	Foundation Engineering				_				100	-	100
-	-	PEC	NYCEE	Program Elective 1	3	-		_	3	50	-			
F	+			Open Elective-III	2	-		-	2	50	-	100	-	100
(	5	OE	-	Minor course 3	4			0	4	50	_	100	-	100
	7	MDM	-		4	+	+				-		50*	100
	+	MODE	NYCE511	Environmental Engineering I	0	(	)	2	1	-	50	-	30	100
	8	VSEC	MICESII	Laboratory		$\perp$	+	2	1				503	100
-			NIVOES12	Design of Steel Structures	-		-	2	'	_	50	-	50*	100
	9	PCC	NYCE512	Laboratory		+	+		-		50	_	50	* 100
	11	AEC	NHSA13	Essential Aptitude Skills	(	)	0	4	2	-				
	11	7120			2	0.	1	08	25	350	15	0 700	15	0 100
3				Total	Added	l Cou	ırse							
							_	2	T.	-	-	-	-	-
	12	VAC		Revit Architecture										

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			Formative	e Assessment
	*: Oral Examination	CIA	Weightage	Description
CIA: Continuous Internal Assessment		CIA 1	10%	Home Assignment
L: Theory Lecture	PC: Program Core course	CIA 2	20%	Written Exam
T: Tutorial	PEC: Programme elective Core	CIA 3	10%	Seminar Presentation
P: Practical ESE: End Semester Exam	OE:Open Elective  VAC: Value Added Courses  AEC :AbilityEnhancement curses	CIA 4	10%	<ul> <li>Behavioural Attitude + General Discipline (5%) </li> <li>Theory + practical</li> <li>attendance 5%)</li> </ul>
	CEP/FP:Communityencougement project/Field project VSEC: Vocational and Skill Enhancement Course MDM: Multidisciplinary minor course	TOTAL	50%	

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#### Course Structure-B.Tech Civil Engineering Semester – VI

No.				8	Teach (H	ing S	Sche eek)	me			on Schem	10/10/10	Total
S		Core	Course Code	Course Name	L	Т	P	C	Asse	mative essment			Marks
									Cours	e Lab	Course	Lab	
	1	PCC	NYCE601	Design of reinforced concrete	3	-	-	3	50	-	100	-	100
,	+		NYCE602	structures Hydraulic Design of Infrastructure	2	1	-	3	50	-	100	-	100
_	2	PCC	NYCE603	Environmental Engineering II	3	-	-	3	50	-	100	-	100
	4	PCC	NYCEE	Program Elective 2	3	-	-	3	50	-	100	-	100
-	5	PEC	NYCEE	Program Elective- 3	3	-	-	3	50	-	100	-	100
	6	PEC	1(1022	Minor course 4	2	0	0	1 2	50	-	100	-	100
	7	MDM		1 O marata		-	+	+				50*	100
	8	PCC	NYCE611	Design of Reinforced Concrete Elements Laboratory	-	-	2	1	-	50	-	50*	
	9	PCC	NYCE612	Environmental Engineering II Laboratory		-	2		1 -	50	-		100
	_		NYCE613	1.0 time I charators	′ -	-	2	2	1 -	50	) <sub>,</sub>   -	50*	100
	10	PCC		0 itation)		+	+	1	2	50	0 -	50*	100
)	11	VSEC	NYCE614	laboratory			_	+		5	n -	50	100
	12	AEC	NHSA14	Employability Skills and Career Advancement	0	0	4	4	2 -				
	_			TOTAL	16	5 1	. 1	4	24 25	30	500	300	110
				Value A	Added	Cour	·se						
	13	VAC		Steel Detailing using Tekla	-		-	2	-	- 5	50 -	-	50

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			Format	ive Assessment
CIA: Continuous Internal	*: Oral Examination	CIA	Weightage	Description
Assessment	PC: Program Core course	CIA 1	10%	Home Assignment
L: Theory Lecture	PEC: Programme elective	CIA 2	20%	Written Exam
•	3	CIA 3	10%	Seminar Presentation
T: Tutorial P: Practical ESE: End Semester Exam	OE:Open Elective VAC: Value Added Courses	CIA 4	10%	<ul> <li>Behavioural Attitude +         General Discipline (5%)</li> <li>Theory + practical         attendance 5%)</li> </ul>
<b>`</b>	AEC: AbilityEnhancement curses CEP/FP:Communityencouge ment project/Field project VSEC: Vocational and Skill Enhancement Course MDM: Multidisciplinary minor course	TOTAL	50%	

#### Exit option:

✓ Students exiting the 3-year UG program will be awarded B.Voc. in the Civil Engineering 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. Refer Annexur 1

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#### Course Structure-B. Tech Civil Engineering Semester – VII

			Semeso	CI - V				41-776	440		Marina Company		
	18			Tea	achi (Hr:	ng S	chen eek)	ne	Exai	ninatio	on Schem		Total
Sr.	Core	Course Code	Course Name		L	Т	P	С	Formative Assessmen CIA				Marks
									Course	Lab	Course	Lab	
1	PCC	NYCE701	Estimation and Cost Analysis	2	2 1		-	3	50	٧.	100	-	100
2	PCC	NYCE702	Highway Materials and Transportation Engineering	2	2	-	-	2	50	-	100	-	100
_					3	_	_	3	50		100	-	100
3	PEC	NYCEE	Program Elective 4						50	_	100	_	100
	MDM		Minor course 5		2	0	0	2	50	-	100		
	5 PCC	NYCE711	Highway Materials and Transportation Engineering		-	-	2	1	-	50	-	50*	100
_			Laboratory		_	_	_	12	_	50	-	50*	100
	6 INT/OJ	NYCE712	INTERNSHIP/OJT#		_			-				50*	100
	7 AEC	NHSA15	Corporate Readiness and Entrepreneurial Excellence		0	0	4	2	-	50	-		
-	/ ABC			OTAL	09	01	6	25	150	200	300	200	700
-			Valu	ie Adde	ed C	ours	e						
-			OTTA A D. Piro		-	T -	2	-	-	-	-	-	-
	8 VAC		STAAD Pro								1		

			Assessment	
	Lu Lu Jahin for 45 Days	CIA	Weightage	Description
CIA: Continuous Internal Assessment	#- Internship for 45 Days	CIA I	10%	Home Assignment
L: Theory Lecture	*: Oral Examination	CIA 2	20%	Written Exam
	PC: Program Core course	CIA 3	10% Seminar Presenta	
Γ: Tutorial P: Practical ESE: End Semester Exam	PEC: Programme elective Core OE:Open Elective VAC: Value Added Courses AEC: AbilityEnhancement Proces CEP/FP:Communityoncougement	CIA 4	10%	Behavioural Attitude + General Discipline (5%) Theory + practical attendance 5%)
	project/Field project NASHIK	TOTAL	50%	



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VSEC: Vocational and Skill	
Enhancement Course	
MDM: Multidisciplinary	
minor course	

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## Course Structure-B.Tech Civil Engineering Semester – VIII

				Teacl	ning S			Exa	e	Total		
Sr. No.	Core	Course Code	Course Name	L	Т	P	С	Form: Assess CIA	ment	Summative Assessment ESE		Marks
								Course	Lab	Course	Lab	
1	PCC	NYCE801	Solid and Hazardous waste Management	2	-	-	2	50	-	100	-	100
12	PCC	NYCE802	Construction Project Management	2	-	-	2	50	-	100	-	100
3	PEC	NYCEE	Program Elective-5	4	-	-	4	50	-	100	-	100
4	ELC	NYCE803	Research Methodology	4	_	-	4	-	50	-	50	100
5	PEC	NYCEE	Program Elective-6	4	-	-	4	50	-	100	-	100
6	MDM	_	Minor course 6	2	0	0	2	50	-	100	-	100
7	CEP/FP	NYCE811	Project	-	-	8	4	-	50	-	100*	100
,	CDITI		TOTAL	18	-	8	22	200	150	400	200	700
			Value A	dded Co	urse							
8	VAC		Extended Three-Dimensional Analysis of Building Systems	-	-	2	-	-	-	-	-	-





	Dopartin			
			Formative	Assessment
		CIA	Weightage	Description
CIA: Continuous Internal	*: Oral Examination	CIA 1	10%	Home Assignment
Assessment	PC: Program Core course	CIA 2	20%	Written Exam
	PEC: Programme elective Core	CIA 3	10%	Seminar Presentation
L: Theory Lecture T: Tutorial P: Practical ESE: End Semester Exam	OE:Open Elective VAC: Value Added Courses AEC :AbilityEnhancement curses CEP/FP:Communityencougement project/Field project	CIA 4	10%	Behavioural     Attitude +     General     Discipline (5%)     Theory +     practical     attendance 5%)
	VSEC: Vocational and Skill Enhancement Course MDM: Multidisciplinary minor course	TOTAL	50%	

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## Programme Elective Core Basket

Sr No	Course Code	PEC-I
1	NYCEE01	Sustainable Construction
2	NYCEE02	Sustainable Waste Management System
3	NYCEE03	Ground improvement techniques
4	NYCEE04	Public transport system
5	NYCEE05	Sustainability and Urban Planning

Sr No	Course Code	PEC-II
1	NYCEE06	Public transport system
2	NYCEE07	Design of Advance concrete structures
3	NYCEE08	Building Information Modeling
4	NYCEE09	Industrial waste management
5	NYCEE10	Remote Sensing and GIS

Sr No	Course Code	PEC-III
1	NYCEE11	Advanced Design of Steel Structures
2	NYCEE12	Infrastructure planning & Design
3	NYCEE13	Environmental legislations
4	NYCEE14	Tunnelling Engineering
	NYCEE15	Rural Planning and Village Development
5	NYCEETS	Ruidi 7 Marie 6

Sr No	Course Code	PEC-IV
1	NYCEE16	Applications of FEM in Structural Engineering
2	NYCEE17	Smart Cities
3	NYCEE18	Environmental impact analysis
4	NYCEE19	Green construction management
5	NYCEE20	Circular economy

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Sr No	Course Code	PEC-V
1	NYCEE21	Advanced Design of Steel Structures
2	NYCEE22	Transportation Engineering
3	NYCEE23	Water quality and Managemet
4	NYCEE24	Environmental geotechnology
5	NYCEE25	Machine Foundations

Course Code	PEC-VI
NIVOEE26	Condition Assessment And Retrofitting Of
NYCEE26	Structures Planning And Design
NYCEE27	Rail And Airport Transportation Systems Planning And Design
NYCEE28	Geoenvironmental Engineering
NYCEE29	Planning Legislation
NYCEE30	Life cycle cost analysis
	NYCEE26 NYCEE27 NYCEE28 NYCEE29

Sr No	Course Code	PEC-VII
1	NYCEE31	Water infrastructure in smart cities  Introduction to Geotechnical Earthquake Engineering
2	NYCEE32	
3	NYCEE33	Advanced concrete Technology
4	NYCEE34	Structural Health Monitoring
5	NYCEE35	Bridge Engineering

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## Mutidisciplinary Minor offered by Civil Engineering Department

#### Minor in Environment and Sustainability

Sr.	Course Name	Code	Scheme	Credit	Semester
No					Ord
1	Introduction to	NYCEM01	3-0-0	2	3rd
	Environmnetal				
	Engineering				
2	Sustainable and	NYCEM02	3-0-0	2	4 <sup>th</sup>
	Green				
	Buildings				
3	Water Supply &	NYCEM03	3-0-0	4	5 <sup>th</sup>
	Waste Water				
4	Environmental laws	NYCEM04	3-0-0	2	6 <sup>th</sup>
5	Climatic change	NYCEM05	3-0-0	2	7 <sup>th</sup>
	impact and disaster				
	Managment				
6	Sustianble waste	NYCEM06	3-0-0	2	8 <sup>th</sup>
	Managmenet system			خ	
	, ,	1	Total	14	

#### B.Tech (Hons.) Civil Engineering with specialization in Sustainability Engineering

Sr. No	Course Name	Code	Scheme	Credit	Semester
1	Environmental Laws and Impact Assessment	NYCEH01	3-0-0	3	4 <sup>th</sup>
3	Sustainable Materials and Green Buildings	NYCEH02	3-0-0	3	5 <sup>th</sup>
4	Sustainable Engineering & Technology	NYCEH03	3-0-0	3	5 <sup>th</sup>
5	Sustainable waste Management system	NYCEH04	3-0-0	3	6 <sup>th</sup>
6	Geoenvironmental Engineering	NYCEH05	3-0-0	3	6 <sup>th</sup>
7	Solid Waste Management	NYCEH06	3-0-0	3	7 <sup>th</sup>
8	Circular economy	NYCEH07	3-0-0	3	7 <sup>th</sup>

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\$5. 90.	Copper Code	Cipes Shorten affored by the Civil Sugincering Department	
	Population.	Those Smale Surger and Stanter Wanagement	
	4 Montanes	Environmental impact recomment	
	600 TOWN	* Realisting Vihiteminance	
- 4	PARTEEN.	to poliution & Control	

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#### Civil Engineeirng Department

#### Exit options under B.Tech. in Civil Engineering Program

	Exit options under B. Tech. in Civil Engineering Program						
	After 1st Year (8 credits)						
	Certificate in Civil Engineeirng						
Sr.	Sr. Courses Name Courses Code Credits						
No.							
1	Certificate Course in AutoCAD for Civil Engineering	NYCEX01	3				
2	Certificate in Building Materials and Testing	NYCEX02	3				
3	Inplant training on construction site (4 week)	NYCEX03	2				
	After 2nd Year (8 Credits)						
	UG diploma in Structural Design and Estima	tion					
Sr.	Courses Name	Courses Code	Credits				
No.							
1	Quantity Survey and Estimation	NYCEX04	3				
2	Fundamentals of structural Design	NYCEX05	3				
3	Internship / Technical Project	NYCEX06	2				
	After 3rd Year (8 Credits)						
	B. Voc. in Construction Mana						
Sr.	Courses Name	Courses Code	Credits				
No.							
1	Construction Management and Safety	NYCEX07	3				
2	Transportation Engineering, Railways, airport and Tunnel Engineering	NYCEX08	3				
3	Internship / Technical Project	NYCEX09	2				







## Credit distribution

Semester		Total Credits as per GR	Total Credits SUN Civil
a la discontinua di contra		14-18	16
Basic Science Course	BSC/ESC	16-12	12
Engineering Science Course		44-56	60
Programme Core Course ( PCC)	Program Courses		20
Programme Elective Course (PEC)		20	20
Multidisciplinary Minor (MD M)	Multidiscipli nary Courses	14	14
Open Elective (OE) Other than a paricular program		08	8
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	08	12
Ability Enhancement Course (AEC -01, AEC-02)	Humanities Social Science and Management (HSSM)	04	10
Entrepreneurship/ Economics / Management Course		04	
Indian knowledge System (IKS)		02	2
Value Education Course (VEC)		04	4
Research Methedology	Experiential Learning Courses	04	4
Comm. Engg. Project (CEP) / Field Project		02	2
(FP) Project		04	4
Internship/ OJT		12	12
Co-curricular Course ( CC )	Liberal Learning Courses	04	4
Total Credits ( Major )	Courses	160-176	184
4	12.00		wit

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#### Exit option:

- ✓ Award of UG Certificate in exiting the First Year programme after securing minimum 40 credits will be awarded UG Certificate in the Civil Engineeirng provided they secure 8 credits in work-based vocational courses or internship / Apprenticeship offered during summer vacation in addition to 4 credit from skill based courses earn during first and second semester. Refer Annexur 1
- ✓ Students exiting the Second Year Programme after securing minimum 80 credits will be awarded UG Diploma in the Civil Engineering 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. Refer Annexur 1
- ✓ Students exiting the 3-year UG program will be awarded B.Voc. in the Civil Engineering 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. Refer Annexur 1

