



BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



S.Y.B.Tech.
(Civil Engineering)
Sem. III & IV
Course Credit System Regulation 2018



BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



Scheme for S.Y.B.Tech. In Civil Engineering (Semester - III) Academic Year 2022-23 (not applicable for R22)														
Sr. No.	Course Name	Code	Course Plan per Week (Hrs)			Credit s	In semester Evaluation (Points)			End Semester Evaluation (Points)		End semester weightag e (%)	Term work / Practica l	Total Points
			L	P	T		T-I	T-II	IE	Points	Time (Hrs)			
	Core Courses													
1	Mathematics III	BS-BTC301	2	0	0	2	15	15	10	100	3	60%	0	100
2	Mechanics of Materials	ES-BTC302	3	0	0	3	15	15	10	100	3	60%	0	100
3	Basics of Surveying	PC-BTC303	2	0	0	2	15	15	10	100	3	60%	0	100
4	Building Drawing with CAD	ES-BTC304	2	0	0	2	15	15	10	100	3	60%	0	100
5	Engineering Geology	BS-BTC305	2	0	0	2	15	15	10	100	3	60%	0	100
6	Fluid Mechanics	PC-BTC306	3	0	0	3	15	15	10	100	3	60%	0	100
7	Building Materials and Construction	PC-BTC307	2	0	1	3	15	15	10	100	3	60%	25	125
	Laboratory Courses													
8	Mechanics of Materials (Lab)	ES-BTC351	0	2	0	1	0	0	0	0	0	0%	25	25
9	Basics of Surveying (Lab.)	PC- BTC352	0	2	0	1	0	0	0	0	0	0%	25	25
10	Fluid Mechanics (Lab.)	PC- BTC353	0	2	0	1	0	0	0	0	0	0%	25	25
11	Materials Testing & Evaluation (Lab.)	PC- BTC354	0	2	0	1	0	0	0	0	0	0%	25	25
12	Building Drawing with CAD (Lab.)	ES-BTC355	0	2	0	1	0	0	0	0	0	0%	25	25
13	Engineering Geology (Lab.)	BS-BTC356	0	2	0	1	0	0	0	0	0	0%	25	25
	Online Courses													
14	#Online Course	OL-BTCxxx	0	0	0	0	0	0	0	0	0	0	0	0
Value Added Courses														
15	UHV-I/Or Any other	VA-BTC301	2			0	15	15	10	50	2	0	0	0
	TOTAL		16	12	1	23								

IE: Internal Evaluation

#List of courses to be announced at start of the year



BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
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NOTES

Scheme for S.Y.B.Tech. In Civil Engineering (Semester - IV)
Academic Year 2022-23 (not applicable for R22)

Sr. No.	Course Name	Code	Course Plan per Week (Hrs)			Credits	In semester Evaluation(Points)			End Semester Evaluation (Points)		End semester weightage (%)	Term work / Practical	Total Points
			L	P	T		T-I	T-II	IE	Points	Time (Hrs)			
	Core Courses													
1	Probability, Statistics and Operational Research	BS-BTC401	2	0	0	2	15	15	10	100	3	60%	0	100
2	Structural Mechanics	PC-BTC402	3	0	1	4	15	15	10	100	3	60%	25	125
3	Concrete Technology	PC-BTC403	2	0	0	2	15	15	10	100	3	60%	0	100
4	Surveying & Geomatics	PC-BTC404	3	0	0	3	15	15	10	100	3	60%	0	100
5	Hydraulic Engineering	PC-BTC405	2	0	0	2	15	15	10	100	3	60%	0	100
6	Transportation Engineering	PC-BTC406	2	0	1	3	15	15	10	100	3	60%	25	125
7	Environmental Engineering-I	PC-BTC407	3	0	0	2	15	15	10	100	3	60%	0	100
	Laboratory Courses													
8	Concrete Technology (Lab)	PC-BTC451	0	2	0	1	0	0	0	0	0	0	25	25
9	Surveying & Geomatics (Lab.)	PC-BTC452	0	2	0	1	0	0	0	0	0	0	25	25
10	Hydraulic Engineering (Lab.)	PC-BTC453	0	2	0	1	0	0	0	0	0	0	25	25
	Mandatory Course													
12	Indian Traditional Knowledge	MC-BT002	2	0	0	0	15	15	10	50+50*	3	60%	0	100
	Online Courses													
13	#Online Course	OL-BTCxxx	0	0	0	0	0	0	0	0	0	0	0	0
	Value Added Courses													
14	VA-BTC	VA-BTCxxx	2	0	0	0	15	15	10	50	2	0	0	0
	TOTAL		18	6	2	22								

IE: Internal Evaluation

#List of courses to be announced at start of the year ; *

Assignments during the coursework

Notes:



BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



- (1) Refer (i) Academic rules and regulations and (ii) Examination rules and regulations for further details
- (2) Laboratory course is considered as a separate head of passing.
- (3) Assessment criteria for laboratory/Tutorial work. i.e. weightage for assessment shall be as follows: i) Participation in Laboratory/Tutorial = 20%, (ii) Journal= 40%, (iii) Practical Examination (and/or) Mini project (and/or) Quiz (and/or) Seminar (and/or) Oral (and/or) Industry visit report= 40%.
- (4) Student can opt for an online course available on <https://swayam.gov.in/> or <https://onlinecourses.nptel.ac.in/> subject to approval from the department. After successful completion of the course, the course title can appear on the grade card of student.
- (5) The Mandatory courses are with Pass (P) and No Pass (NP) grades.
- (6) Department will offer the Value Added courses in a semester subject to availability of resources and enrolment of minimum 20 students opting for the course. Upon completion of the Value Added course, the course title shall appear in the grade card of the student.
- (7) Students can optionally opt for Non-Technical Value Added courses offered by Center for Continuing Education (CCE-SPCE) . Upon successful completion of the course , the course title shall appear on student's grade card.
- (8) The contents of core courses are aligned with the latest GATE syllabus. The mapping between GATE syllabus topics and core courses is given in Table GATE-MAP.



BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



T.Y.B.Tech.
(Civil Engineering)
Sem. V & VI
Course Credit System Regulation 2018



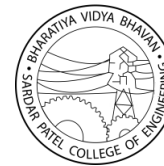
BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



Scheme for T.Y.B.Tech.in Civil Engineering, (Semester - V) Year 2023-24													
Sr. No.	Course Name	Code	Course Plan per Week (Hrs)			Credits	In semester Evaluation (Points)		End Semester Evaluation (Points)		End semester weightage (%)	Term work/ Practical	Total Points
			L	P	T		T-I	T-II	Points	Time (hrs)			
Core Courses													
1	Structural Engineering	PC-BTC501	3	0	1	4	20	20	100	3	60%	25	125
2	Hydrology & Water Resources Engineering	PC-BTC502	3	0	1	4	20	20	100	3	60%	25	125
3	Soil Mechanics	PC-BTC503	3	0	0	3	20	20	100	3	60%	0	100
4	Highway Engineering	PC-BTC504	2	0	0	2	20	20	100	3	60%	0	100
5	Environmental Engineering-II	PC-BTC506	3	0	0	3	20	20	100	3	60%	0	100
6	Organizational Communication and Interpersonal Skills	HSM-BTC507	2	0	1	3	20	20	100	3	60%	25	125
Laboratory Courses (Note 2&3)													
7	Highway Engineering (Lab)	PC-BTC551	0	2	0	1	0	0	0	0	0	25	25
8	Environmental Engineering (Lab)	PC- BTC552	0	2	0	1	0	0	0	0	0	25	25
9	Soil Mechanics (Lab)	PC- BTC553	0	2	0	1	0	0	0	0	0	25	25
Online Courses (Note 5)													
10	Online Course	OL-BTCxxx	3	0	0	0	0	0	0	0	0	0	0
Value Added Courses (Note7)													
11	Introduction to Offshore Engineering	VA –BTC 572	2	0	0	0	20	20	100	3	60%	0	100
12	Legal Aspects in Projects	VA –BTC 573	1	0	1	0	20	20	100	3	60%	25	125
Value Added Non-Technical Courses (Note10)													
11	Refer Table-VNT	VNT-BTxxx	Refer Table-VNT										
	TOTAL		17	4	3	22							



BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
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Non-technical value Added Courses-VNT

VN-BT001: Ubuntu
VN-BT002: Performing Arts and Script Writing
VN-BT003: Financial Literacy
VN-BT004: Self Defence Training program
VN-BT005: Yoga health technology for self-management
VN-BT006: Integrated self-management
VN-BT007: Photography

NOTES

- (1) Refer (i) Academic rules and regulations and (ii) Examination rules and regulations for further details
- (2) Laboratory course is considered as a separate head of passing.
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- (8) The contents of core courses are aligned with the latest GATE syllabus. The mapping between GATE syllabus topics and core courses is given in Table GATE-MAP



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SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



Scheme for T.Y.B.Tech.in Civil Engineering, (Semester - VI) Year 2023-24													
Sr. No.	Course Name	Code	Course Plan per Week (Hrs)			Credits	In semester Evaluation (Points)		End Semester Evaluation (Points)		End semester weightage (%)	Term work/ Practical	Total Points
			L	P	T		T-I	T-II	Points	Time (Hrs)		(Note 3)	
Core Courses													
1	Construction Engineering & Management	PC-BTC601	3	0	1	4	20	20	100	3	60%	25#	125
2	Design of Steel Structures	PC-BTC602	3	0	1	4	20	20	100	3	60%	25#	125
3	Foundation Engineering	PC-BTC603	3	0	0	3	20	20	100	3	60%	0	100
4	Design of RCC Elements	PC-BTC604	3	0	1	4	20	20	100	3	60%	25#	125
5	Elective - I	REFER TABLE - Professional Elective I	3	0	0	3	20	20	100	3	60%	0/25*	100/125*
6	Elective II	REFER TABLE - Professional Elective II	3	0	0	3	20	20	100	3	60%	0/25*	100/125*
7	Open Elective-I	REFER TABLE - Open Elective I	3	0	0	3	20	20	100	3	60%	0/25*	100/125*
Mandatory Course													
8	Environmental studies	MC-102	2	0	0	0	20	20	100	3	60%	0	100
Online Courses (Note 5)													
12	Online Course	OL-BTC xxx	3	0	0	0	0	0	0	0	0	0	0
Value Added Courses (Note 7)													
13	Geographic Information System (GIS) and its Applications	VA-BTC671	1	0	1	0	20	20	100	3	60	25	125
14	Business and Professional Communication	VA-BTC672	1	0	1	0	20	20	100	3	60	25	125
Value Added Non-Technical Courses													
15	Refer Table-VNT	VNT-BTxxx	Refer Table-VNT										



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	Total		26	0	3	24						
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Non-technical value Added Courses-VNT

VN-BT001: Ubuntu
VN-BT002: Performing Arts and Script Writing
VN-BT003: Financial Literacy
VN-BT004: Self Defence Training program
VN-BT005: Yoga health technology for self-management
VN-BT006: Integrated self-management
VN-BT007: Photography

Professional Elective I

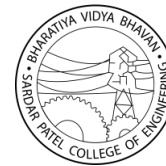
Specialization	Sr. No.	Code	Elective
Structures	1	PE-BTC621	Analysis of Indeterminate Structures
	2	PE-BTC622	Geographic Information System Science and Application
Water Resources	3	PE-BTC631	Hydraulic structures & Irrigation Engineering
	4	PE-BTC 632	Introduction to Offshore Engineering
Construction Management	5	PE-BTC641	Special Construction Materials & Methods
Environmental Engg.	6	PE-BTC 651	Solid and Hazardous Waste Management
	7	PE-BTC 652	Air and Noise Pollution Control
Transportation and Geo-Tech	8	PE-BTC 661	Pavement Subgrade and Materials
	9	PE-BTC 662	Ground Improvement Techniques

Professional Elective II

Specialization	S. No	Code	Elective
Structures	1	PE-BTC 624	Structural Dynamics
Water Resources	2	PE-BTC 633	Open Channel Flow
	3	PE-BTC 634	Ground Water Development and Management
	4	PE-BTC 635	Urban Hydrology and hydraulics
	5	PE-BTC636	Watershed Management
Construction Management	5	PE-BTC 642	Disaster Preparedness , Planning and Management
	6	PE-BTC 644	TQM and MIS in construction
Environmental Engg.	7	PE-BTC 653	Rural Water Supply and Sanitation



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	8	PE-BTC 654	Physico chemical processes
Transportation and Geo-Tech	9	PE-BTC 663	Low Cost Roads
	10	PE-BTC 664	Traffic engineering and control
	11	PE-BTC 665	Introduction to Geotechnical Earthquake Engineering

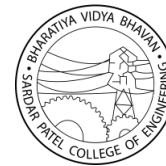
Open Elective-I		
Sr. No.	Code	Elective
1	OE-BTC 611	Human Resources Development And Organizational Behavior
2	OE-BTC 612	Sustainable Development
4	OE-BTC 614	Artificial Intelligence Techniques
5	OE-BTC 615	Numerical Computations
6	OE –BTE 601	Project Management
7	OE-BTE 602	Artificial Intelligence
8	OE-BTE 605	Linear Algebra And Matrix Computation
9	OE-BTM 611	Computational Methods
10	OE-BTM 613	Entrepreneurship Development And Start Up
11	OE-BTM 614	Introduction To Optimization Methods

*** Professional elective can be for 2 lectures + 1 tutorial based on course instructor's discretion; For such courses, the total marks will be 125 i.e 25 marks for tutorial added. However, the total credits shall remain same. This should be conveyed to exam section at the start of semester**

Notes:



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SARDAR PATEL COLLEGE OF ENGINEERING
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BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



B.Tech.
(Civil Engineering)
Sem. VII & VIII
Course Credit System Regulation 2018



BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



Scheme for Final Year B.Tech.in Civil Engineering, (Semester - VII) Academic Year 2023-24													
Sr · N o ·	Course Name	Code	Course Plan per Week (Hrs)			Credit s	In semester Evaluation n (Points)		End Semester Evaluation (Points)		End semester weightag e (%)	Term work/Practical	Total Points
			L	P	T		T-I	T-II	Points	Time (Hrs)		(Note 3)	
Core Courses													
1	Design of concrete structures	PC-BTC701	3	0	1	4	20	20	100	3	60%	25#	125
2	Professional Elective III	REFER TABLE - Professional Elective III	3	0	0	3	20	20	100	3	60%	0/25*	100/125*
3	Professional Elective IV	REFER TABLE - Professional Elective IV	3	0	0	3	20	20	100	3	60%	0/25*	100/125*
4	Open Elective II	REFER TABLE -Open Elective II	3	0	0	3	20	20	100	3	60%	0/25*	100/125*
5	Project-Stage I	PROJ-BTC751	0	(2+6) ^s	0	4	0	0	0	0	0%	50###** (Note 9)	50
Online Courses (Note 5)													
6	Online Course	OL-BTCxxx	3	0			0	0	0	0	0	0	0
Value Added Courses (Note 7)													
7	Environmental Impact Assessment and Mgt.	VA-BTC772	2	0			20	20	100	3	60%	0	100
8	Conventional and Nonconventional Materials in Highway Sub-grade	VA-BTC773	2	0			20	20	100	3	60%	25	125
Value Added Non-Technical Courses													
9	Non-technical value added course	VN-BTXXX	Refer Table-VNT										
	TOTAL		12	8	1	17							



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SARDAR PATEL COLLEGE OF ENGINEERING
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Non-technical value Added Courses-VNT

VN-BT001: Ubuntu

VN-BT002: Performing Arts and Script Writing VN-BT003: Financial Literacy

VN-BT004: Self Defence Training program

VN-BT005: Yoga health technology for self-management VN-BT006: Integrated self-management

VN-BT007: Photography

Professional Elective III

Specialization	Sr. No.	Code	Elective
Structures	1	PE-BTC721	Advanced Structural Analysis
	2	PE-BTC 722	Structural analysis by Matrix Methods
	3	PE-BTC 723	Repair and rehabilitation of structures
Water Resources	4	PE-BTC 731	Surface Hydrology
Environmental Engg.	5	PE-BTC 741	Water and Air quality Modelling
	6	PE-BTC742	Environmental Impact Assessment
Transportation and Geo-Tech	7	PE-BTC 761	Pavement Design & Construction
	8	PE-BTC 762	Advanced Foundation Engineering
	9	PE-BTC 763	Rock Mechanics



BHARTIYA VIDYA BHAVAN'S
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Professional Elective IV

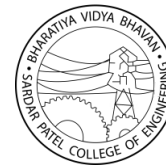
Specialization	Sr. No.	Code	Elective
Structures	1	PE-BTC 726	Prestressed concrete
Water Resources	2	PE-BTC732	Hydraulic Modelling
Environmental Engg	3	PE-BTC 742	Sustainable Engineering and technology
	4	PE-BTC743	Industrial Wastewater treatment
Construction Management	5	PE-BTC 751	Engineering risk and uncertainty
	6	PE-BTC752	Infrastructure Planning and Management
Transportation and Geo-Tech	7	PE-BTC 764	Design and Construction of Rigid Pavements

Open Elective-II		
Sr. No.	Code	Elective
1	OE-BTC 711	Economic policies of India
2	OE-BTC 712	Entrepreneurship, Innovation and Design Thinking
3	OE-BTC 713	Disaster Management and preparedness
4	OE-BTC 714	Engineering System and development
5	OE-BTE 701	Computer network
6	OE-BTE 702	Engineering economics
7	OE-BTE 703	Embedded system
8	OE-BTE 704	Internet of things
9	OE-BTM 714	Introduction to Micro-Electro-Mechanical Systems (MEMS)
10	OE-BTM 715	Solar and Wind Technology
11	OE-BTM 717	Introduction to Augmented Reality
12	OE-BTM 718	Fundamental of Artificial Intelligence (AI) and Machine Learning

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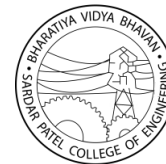
BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Munshi Nagar Andheri (W)



Scheme for Final Year B.Tech.in Civil Engineering, (Semester - VIII) Academic Year 2023-24															
Sr. No .	Course Name			Code	Course Plan per Week (Hrs)			Credits	In semester Evaluation (Points)		End Semester Evaluation (Points)		End semester weightage (%)	Term work/Practical	Total Points
					L	P	T		T-I	T-II	Points	Time (Hrs)		(Note 3)	
Core Courses															
1	Engineering Economics Estimation and Costing			PC-BTC801	3	0	1	4	20	20	100	3	60%	25#	125
2	Elective V			REFER TABLE - Professional Elective V	2	0	0	2	20	20	100	3	60%	0/25*	100/125*
3	Elective VI			REFER TABLE - Professional Elective VI	3	0	0	3	20	20	100	3	60%	0/25*	100/125*
4	Open Elective III	OR	Internship	REFER TABLE - Open Elective III	3	0	0	3	20	20	100	3	60%	0/25*	100/125*
5	Project –Stage II*			PROJ-BTC851	0	(2+12) _s	0	7	0	0	0	0	100%	100	100
Online Courses (Note 5)															
6	Online Course			OL-BTCxxx	3	0	0	0	0	0	0	0	0	0	0
Value Added Courses (Note 7)															
7	Low Cost Rural Roads			VA-BTC873	2	0	1	AU	20	20	100	3	60%	25#	125
Value Added Non-Technical Courses															
8	Refer Table-VNT			VN-BTxxx	Refer Table-VNT										
	TOTAL				11	14	1	19							



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Non-technical Value Added Courses-VNT

VN-BT001: Ubuntu
VN-BT002: Performing Arts and Script Writing
VN-BT003: Financial Literacy
VN-BT004: Self Defence Training program
VN-BT005: Yoga health technology for self-management
VN-BT006: Integrated self-management
VN-BT007: Photography

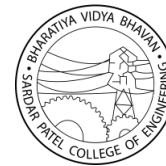
Professional Elective – V			
Specialization	Sr. No.	Code	Elective
Structures	1	PE-BTC824	Finite Element Analysis
	2	PE-BTC825	Advanced structural mechanics
Water Resources	4	PE-BTC832	Water Resources Economics Planning and Management
Environmental Engg	5	PE-BTC842	Environmental Law and Policy
Construction Management	6	PE-BTC853	Valuation and Value Engineering
	7	PE-BTC854	Risk and Disaster management
Transportation and Geo-Tech	8	PE-BTC863	Transportation Planning and Economics

Professional Elective – VI			
Specialization			Elective
Structures	1	PE-BTC821	Earthquake Engineering
	2	PE-BTC822	Bridge Engineering
	3	PE-BTC 823	Decision and Risk analysis
	4	PE-BTC824	Advanced design of steel structures
Water Resources	5	PE-BTC831	Introduction to Offshore Engineering
Environmental Engg	6	PE-BTC841	Environmental Impact assessment
Construction Management	7	PE-BTC 851	Construction Productivity & Cost analysis
	8	PE-BTC 852	Contracts Management
	9	PE-BTC 855	Appraisal & Implementation of Infrastructure Projects
	10	PE-BTC854	Advance computational Techniques
Transportation and Geo-Tech	11	PE-BTC 861	Conventional and Nonconventional Materials in Highways
	12	PE-BTC862	Soil Dynamics

Open Elective-III



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Sr. No.	Code	Elective
1	OE-BTC 811	Mechanics of water waves
2	OE-BTC 812	Human Resource Development& Organizational Behavior
3	OE-BTC814	Disaster Management and preparedness
4	OE-BTE801	Robotics
5	OE-BTE802	Power Plant Engineering
6	OE-BTE803	Electrical engineering materials
7	OE-BTE804	Medical Electronics
8	OE-BTE805	Image processing
9	OE-BTM712	Introduction to Research Methodology
10	OE-BTM719	Value Engineering

*** Professional elective can be for 2 lectures + 1 tutorial based on course instructor's discretion; For such courses, the total marks will be 125 i.e 25 marks for tutorial added. However, the total credits shall remain same**

NOTES

- (1) Refer (i) Academic rules and regulations and (ii) Examination rules and regulations for further details
- (2) Laboratory course is considered as a separate head of passing.
- (3) Assessment criteria for laboratory/Tutorial work. i.e. weightage for assessment shall be as follows: i) Participation in Laboratory/Tutorial = 20%, (ii) Journal= 40%, (iii) Practical Examination (and/or) Mini project (and/or) Quiz (and/or) Seminar (and/or) Oral (and/or) Industry visit report= 40%.
- (4) Student can opt for an online course available on <https://swayam.gov.in/> or <https://onlinecourses.nptel.ac.in/> subject to approval from the department. After successful completion of the course, the course title can appear on the grade card of student.
- (5) The Mandatory courses are with Pass (P) and No Pass (NP) grades.
- (6) Department will offer the Value Added courses in a semester subject to availability of resources and enrolment of minimum 20 students opting for the course. Upon completion of the Value Added course, the course title shall appear in the grade card of the student.
- (7) Students can optionally opt for Non-Technical Value Added courses offered by Center for Continuing Education (CCE-SPCE) . Upon successful completion of the course , the course title shall appear on student's grade card.
- (8) The contents of core courses are aligned with the latest GATE syllabus. The mapping between GATE syllabus topics and core courses is given in Table GATE-MAP



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Table GATE-MAP: Alignment of Course Content with GATE Syllabus (2023) B.Tech. in Civil Engineering

No.	Section	Core courses in SPCE Curriculum 2022-23	Topics From GATE Syllabus (2023)
1	S	Engg. Mechanics I- Engg. Mechanics II-	Engineering Mechanics
2	S	Mechanics of Materials	Solid Mechanics
3	S	Structural Mechanics	Structural Analysis
4	S	Structural Engineering	
5	S	Building Materials and Construction	Construction Materials and Management
6		Concrete Technology	
7		Construction Engineering & Management	
8		Engineering economics, estimation and costing	
9	S	Design of RCC Elements (Limit State Method)	Concrete Structures
10	S	Design of Reinforced Concrete Structures	
11	S	Design of Steel Structures	Steel Structures
12	G	Soil Mechanics	Soil Mechanics
13	G	Foundation Engineering	Foundation Engg
14	W	Fluid Mechanics	Fluid Mechanics
15	W	Hydraulic Engineering	Hydraulics
16	W	Hydrology & Water Resources Engineering	Hydrology
17	W	Water Resources Engineering	Irrigation
18	E	Environmental Engineering-I Environmental Engineering	Water and Waste Water
19	E	EVS	Air Pollution
20	E	Environmental Engineering-I & II	Municipal Solid Waste
21	E	EVS EIA	Noise Pollution
22	T	Transportation Engineering	Transportation Infrastructure
23	T	Highway Engineering	Highway Pavements
24	T	Highway Engineering	Traffic Engineering
25	G	Basics of Surveying	Principles of surveying
26	G	Surveying & Geomatics	Photogrammetry
27	MATH	Differential calculus and complex numbers, Integral calculus and differential equations, Engineering mathematics III, Probability and statistics	Linear Algebra, Calculus, Differential Equations, Complex variables, Probability and Statistics, Numerical Methods

Note: Sections are: S - Structural Engg, G-Geotechnical Engg, W-Water Resource Engg, E-Environmental Engg., T-Transportation Engg, G-Geomatics Engg., MATH - Engineering Mathematics