

Sardar Patel College of Engineering Andheri (West), Mumbai 400 058
Academic Book
Year: 2020-21

T.Y. B.Tech. In Civil Engineering

Sem. V & VI

Academic Evaluation Scheme

Year 2020-21

Sardar Patel College of Engineering Andheri (West), Mumbai 400 058

Academic Book

Year: 2020-21

Scheme for T.Y.B.Tech.in Civil Engineering, (Semester - V) Year 2020-21

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) (will be introduced in AY 21-22)	PC- BTC552	0	2	0	1	0	0	0	0	0	25#	25#
8	Soil Mechanics (Lab)	PC- BTC553	0	2	0	1	0	0	0	0	0	25#	25#
Online Courses (Note 5)													
8	Online Course	OL-BTCxxx	3	0	0	0	0	0	0	0	0	0	0
Value Added Courses (Note7)													
9	Introduction to Offshore Engineering	VA –BTC 572	2	0	0	0	20	20	100	3	60%	0	100
10	Legal Aspects in Projects	VA –BTC 573	1	0	1	0	20	20	100	3	60%	25#	125
Value Added Non-Technical Courses (Note10)													

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11	Refer Table-VNT	VNT-BTxxx	Refer Table-VNT														
	TOTAL		17	4	3	21 (22 for AY 21-22)											

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

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Notes:

1. Refer (i) Academic rules and regulations (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) Attendance in Laboratory/Tutorial = 20%, (ii) Journal= 40%, (iii) Practical Examination (and/or) Mini project (and/or) Quiz (Preferably MCQs based on GATE syllabus) (and/or) Seminar (and/or) Oral (and/or) Industry visit report= 40%.
4. A) For courses having **2 hours per week lecture / 5 modules:**

Sr. No.	Examination	Module
1	T – I	Module 1 & Part of Module 2
2	T – II	Part of Module 2 & Module 3
3	Final Examination	Module 1 to 5

- B) For courses having **3 hours per week lecture / 7 modules:**

Sr. No.	Examination	Module
1	T – I	Module 1 ,2
2	T – II	Module 3, 4
3	Final Examination	Module 1 to 7

5. Student can opt for an online course available on <https://swayam.gov.in/> or <https://onlinecourses.nptel.ac.in/> and inform department by filling up registration form. After successful completion of the course and approval from the department UG committee, the course title can appear on the grade card of the student.
6. The Mandatory courses are with Pass (P) and No Pass (NP) grades.
7. 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 successful completion of the Value Added course, the grade of the course will appear in the grade card of the student
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. The term work for these courses shall include evaluations alongt he pattern of GATE examinations, for

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example, part of the term work shall consist of MCQ similar to GATE examinations. GATE-MAP table is given at the end of final year B.Tech-Civil Engg. Credit System .

9. The course contents, wherever appropriate, should include assessment based on Project Based Learning and a report of visit to an industry related to the course.
10. Students can optionally opt for Non-Technical Value Added courses offered by Center for Continuing Education (CCE-SPCE). These courses are with zero credit and upon successful completion, the course titles will appear on student's grade card.

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Scheme for T.Y.B.Tech.in Civil Engineering, (Semester - VI) Year 2020-21

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 (Note 3)	Total Points
			L	P	T		T-I	T-II	Points	Time (Hrs)			
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 - ELECTIVE CORE I	3	0	0	3	20	20	100	3	60%	0	100
6	Elective II	REFER TABLE- ELECTIVE CORE II	3	0	0	3	20	20	100	3	60%	0	100
7	Open Elective-I	REFER TABLE - OPEN ELECTIVE I	3	0	0	3	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 (Note 10)													
15	Refer Table-VNT	VNT-BTxxx	Refer Table-VNT										
TOTAL			21	0	3	24							

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

Elective Core – 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

Elective Core – II

Specialization	Sr. No.	Code	Elective
Structures	1	PE-BTC 623	Repairs and Rehabilitation of Structures
	2	PE-BTC 624	Prestressed Concrete
Water Resources	3	PE-BTC 633	Open Channel Flow
	4	PE-BTC 634	Ground Water Development and Management
	5	PE-BTC 635	Urban Hydrology and hydraulics
Construction Management	6	PE-BTC 642	Disaster Preparedness , Planning and Management
	7	PE-BTC 644	TQM and MIS in construction
Environmental Engg.	8	PE-BTC 653	Rural Water Supply and Sanitation
	9	PE-BTC 654	Physico chemical processes
Transportation and Geo-Tech	10	PE-BTC 663	Low Cost Roads
	11	PE-BTC 664	Traffic engineering and control
	12	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
3	OE-BTC 613	Watershed Development And Management
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
12	OE-BTS 6C1	Online Course from SWAYAM/NPTEL- Sustainable Materials and Green Buildings (Note 9)

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(ii) Journal= 40%, (iii) Practical Examination (and/or) Mini project (and/or) Quiz (Preferably MCQs based on GATE syllabus) (and/or) Seminar (and/or) Oral (and/or) Industry visit report= 40%.

4. A) For courses having **2 hours per week lecture / 5 modules:**

Sr. No.	Examination	Module
1	T – I	Module 1 & Part of Module 2
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3	Final Examination	Module 1 to 5

B) For courses having **3 hours per week lecture / 7 modules:**

Sr. No.	Examination	Module
1	T – I	Module 1 ,2
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3	Final Examination	Module 1 to 7

- Student can opt for an online course available on <https://swayam.gov.in/> or <https://onlinecourses.nptel.ac.in/> and inform department by filling up registration form. After successful completion of the course and approval from the department UG committee, the course title can appear on the grade card of the student.
- The Mandatory courses are with Pass (P) and No Pass (NP) grades.
- 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 successful completion of the Value Added course, the grade of the course will appear in the grade card of the student
- List of Professional Elective Courses being offered by department in a semester will be selected from Table Elective Core I, II and the list of elective courses being offered by department will be displayed at the beginning of semester.
- List of Open Elective Courses being offered by institute in a semester will be selected from Table-Open Elective –I and the list of elective courses being offered by department will be displayed at the beginning of semester.
- For Open Elective courses, students with C.P.I. higher than 8.5 can opt for obtaining the credits by completing a online course (approved by department) offered through SWAYAM or NPTEL portal instead of completing elective courses offered by department/institute. Upon successful completion of course, the score given on certificate issued by SWAYAM/NPTEL will be converted to letter grade as per applicable examination regulation.
- 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. The term work for these courses shall include evaluations alongt he pattern of GATE examinations, for example, park of the term work shall consist of MCQ similar to GATE examinations. GATE-MAP table is given at the end of final year B.Tech-Civil Engg. Credit System .

12. The course contents, wherever appropriate, should include assessment based on Project Based Learning and a report of visit to an industry related to the course.

13. Students can optionally opt for Non-Technical Value Added courses offered by Center for Continuing Education (CCE-SPCE). These courses are with zero credit and upon successful completion, the course titles will appear on student's grade card.