

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

Year: 2021-22

**M.Tech. in Civil Engineering with
Construction Management Courses**

Academic Scheme
Year 2021-22

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

Year: 2021-22

Scheme for M.Tech. (Civil) with Construction Management Courses (Semester – I) Academic year 2021-22

Sr. No	Course Type	Code	Course Name	Course Plan for Each Week (Hrs)			Credits			Evaluation (Marks)				Total
				Lectures	Laboratory	Tutorial		Test 1	Test 2	End Semester		End Semester Weightage (%)	In Semester Evaluation	
										Marks	Duration			
1	Core - I	PC-MTCM101	Construction Organisation and Safety Management	3	--	01	4	20	20	100	3	60	25 [#]	125
2	Core - II	PC-MTCM102	Applied Statistics and Quantitative Techniques	3	--	01	4	20	20	100	3	60	25 [#]	125
3	Program Elective - I	PEC-MTCM 101-103	Programme Elective - I	3	--	---	3	20	20	100	3	60		100
4	Program Elective - II	PEC-MTCM 111-113	Programme Elective - II	3	--	---	3	20	20	100	3	60		100
5	Program Elective - III	PEC-MTCM 121-123	Programme Elective - III	3	--	---	3	20	20	100	3	60	--	100
6	Core Lab I	PC-MTCML 501	Advanced Material testing Lab	--	02	---	1						50	50 #
7	Core Lab II	PC-MTCML 502	Geo-Informatics Lab	--	02	---	1	--	--	--	--	--	50	50 #
8	MLC	MC-PG01	Research Methodology and IPR	2			2	20	20	100	3	60		100
9	Audit-I	AU-PG01-02	Audit	2	--	---	AU	20	20	100	3	60		100
	Total			19	04	02	21	120	120				150	750

NOTE - Test 1, Test 2 and end semester weightage marks will be added and shown as the theory marks in the mark sheet. Duration of Test 1, Test 2 is of 1 hour. For passing, Student must secure minimum 50% marks in each course with all heads of passing taken together and minimum 50% marks in the end semester examination.

Assessment criteria for laboratory/Tutorial work. i.e. weightage for assessment shall be as follows:

- (i) Attendance in Laboratory/Tutorial = 20%,
- (ii) Journal/Drawing sheet/Sketch book = 40%,
- (iii) MCQ/Oral/Test = 40%.

** Evaluation as per Swayam/NPTEL Re-examination as per institute guidelines. Department will offer online course as Program Elective or Open Elective courses subject to availability of a course on <https://swayam.gov.in/>, and NPTEL and availability of internal resources. Course will be offered for enrollment of at least 5 students opting for the course and maximum online courses can be 20% of total credit. The assessment criteria for these courses will be as per swayam / NPTEL. After evaluation grades will be awarded as per institute criteria. 2, 3 Credits will be assigned for online courses of 8 and 12 weeks respectively.

Sr. No.	Code	Programme Elective –I
1.	PECMTCM 101	Safety Management
2.	PECMTCM 102	Construction materials
3.	PECMTCM 103**	Accounting and Finance Management (Online Course)

Sr. No.	Code	Programme Elective - II
1.	PECMTCM 111	Management of Infrastructure Services
2.	PECMTCM 112	Advanced Construction Techniques
3.	PECMTCM 113	Construction Marketing

Sr. No.	Code	Programme Elective –III
1.	MTCMPEC 121	Repair, Rehabilitation and Retrofitting Techniques
2.	MTCMPEC 122	Appraisal & Implementation of Infrastructure Projects
3.	MTCMPEC 123	Management of Housing Projects

Sr. No.	Code	Audit -I Courses
1	AU-PG 01	Project Planning and Management
2	AU-PG 02	English for Research Paper Writing

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Scheme for M.Tech. (Civil) with Construction Management Courses (Semester – II) Academic year 2021-22

Sr. No	Course Type	Code	Course Name	Course Plan for Each Week (Hrs)			Credits			Evaluation (Marks)				Total
				Lectures	Laboratory	Tutorial		Test 1	Test 2	End Semester		End Semester Weightage (%)	In Semester Evaluation	
										Marks	Duration			
1	Core - 3	PC-MTCM201	Project Monitoring and Control	3	--	01	4	20	20	100	3	60	25 [#]	125
2	Core -4	PC-MTCM202	Project Appraisal, Planning and Scheduling	3	--	01	4	20	20	100	3	60	25 [#]	125
3	Program Elective - IV	PEC-MTCM 201-204	Programme Elective - IV	3	--	---	3	20	20	100	3	60		100
4	Program Elective - V	PEC-MTCM 211-214	Programme Elective - V	3	--	---	3	20	20	100	3	60		100
5	Open Elective - I	OE-PG01-07	Elective - VI	3	--	---	3	20	20	100	3	60		100
6	Core Lab III	PC-MTCML 503	Building Information Modeling Lab	--	02	---	1						50	50 #
7	Core Lab IV	PC-MTCML 504	Project Management Lab	--	02	---	1	--	--	--	--	--	50	50 #
8	Core - 5	PC-MTCM171	Mini Project	2			2						100 [*]	100 [*]
9	Audit-II	AU-PG03-04	Audit	2	--	---	AU	20	20	100	3	60		100
	Total			19	04	02	21	100	100			300	250	750

NOTE - Test 1, Test 2 and end semester weightage marks will be added and shown as the theory marks in the mark sheet. Duration of Test 1, Test 2 is of 1 hour. For passing, Student must secure minimum 50% marks in each course with all heads of passing taken together and minimum 50% marks in the end semester examination.

Assessment criteria for laboratory/Tutorial work. i.e. weightage for assessment shall be as follows:

* 50 marks for report and 50 marks for presentation, Examined by supervisor and at least one internal examiner.

- (i) Attendance in Laboratory/Tutorial = 20%,
- (ii) Journal/Drawing sheet/Sketch book = 40%,
- (iii) MCQ/Oral/Test = 40%.

** Evaluation as per Swayam/NPTEL Re-examination as per institute guidelines. Department will offer online course as Program Elective or Open Elective courses subject to availability of a course on <https://swayam.gov.in/>, and NPTEL and availability of internal resources. Course will be offered for enrollment of at least 5 students opting for the course and maximum online courses can be 20% of total credit. The assessment criteria for these courses will be as per swayam / NPTEL. After evaluation grades will be awarded as per institute criteria. 2, 3 Credits will be assigned for online courses of 8 and 12 weeks respectively.

Sr. No.	Code	Elective -IV
1.	MTCMPEC 201	Legal Aspects in Construction
2.	MTCMPEC 202	Risk and Value Management
3.	MTCMPEC 203	International Construction Business
4.	MTCMPEC 204**	Infrastructure Planning and Managements (Online Course)

Sr. No.	Code	Elective – V
1.	MTCMPEC 211	Management of Construction Resources
2.	MTCMPEC 212	Total Quality Management in Construction
3.	MTCMPEC 213	International Contracting
4.	MTCMPEC 214**	Modern Construction Materials (Online Course)

Sr. No.	Code	Open Elective Courses, Elective-VI
1.	OE-PG01	Business Analytics
2	OE-PG02*	Industrial Safety Engineering (Online Course)
3	OE-PG03	Operations Research
4	OE-PG04	Cost Management of Engineering Projects

Sr. No.	Code	Audit -II Courses
1	AU-PG 03	Disaster Management
2	AU-PG 04	Stress Management by Yoga

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Scheme for M. Tech. (Civil) with Construction Management Courses (Semester – III) Academic year 2021-22

Sr. No	Course Type	Code	Course Name	Course Plan for Each Week (Hrs)			Credits			Evaluation (Marks)					Total
				Lectures	Laboratory	Tutorial		Test 1	Test 2	End Semester		End Semester Weightage (%)	In Semester Evaluation		
										Marks	Duration		Report	Seminar	
1	Dissertation Phase 1	PC-MTCM311	Seminar on Literature Review			4 + 12 ^{\$}	6	Seminar on Literature Review			50	50	100 [*]		
2						6	Seminar Stage-I			50	50	100 [*]			
	Total			--	--	16	12						100	100	200

* Examined by supervisor and at least one internal examiner. ^{\$}Contact hours with mentor/supervisor/guide=4, Self learning hours=12

For passing, Student must secure minimum 50% marks in each Course with all head of passing taken together and minimum 50% marks in the end semester examination.

Scheme for M. Tech. (Civil) with Construction Management Courses (Semester – IV) Academic year 2021-22

Sr. No	Course Type	Code	Course Name	Course Plan for Each Week (Hrs)			Credits			Evaluation (Marks)					Total
				Lectures	Laboratory	Tutorial		Test 1	Test 2	End Semester		End Semester Weightage (%)	In Semester Evaluation		
										Marks	Duration		Report	Seminar	
1	Dissertation Phase 2	PC-MTCM411	Seminar Stage – II	---	---	4 + 12 ^{\$}	6	Seminar (Pre-Synopsis)			50 [*]	50 [*]	100		
2			Dissertation Viva-Voce				10	Dissertation & Viva-voce			100 ^{**}	50 ^{**}	150		
	Total			---	---	16	16					150	100	250	

* Examined by supervisor and at least one internal examiner

** Examined by supervisor and one approved external examiner. ^{\$}Contact hours with mentor/supervisor/guide=4, Self learning hours=12

For passing, Student must secure minimum 50% marks in each Course with all head of passing taken together and minimum 50% marks in the end semester examination.

