Bharatiya Vidya Bhavan's
SARDAR PATEL COLLEGE OF ENGINEERING
(Government Aided Autonomous Institute under Mumbai University)
Andheri (W), Mumbai - 400058

M.Tech. in Civil Engineering with

Construction Management Programme

Academic Evaluation Scheme/Credit System

Year: 2023-2024

Regulation 23 (R23)

Sardar Patel College of Engineering Andheri (West), Mumbai 400 058
Year: 2023-24

Scheme for F.Y.M.Tech. in Civil Engineering with Construction Management Course, (Semester - I) R23 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**		**T1**	**T2**	**IE**	**Points**	**Time (Hrs)**			
	Core Courses													
1	Construction Organisation and Safety Management	PC-MTCM101	3	--	--	3	15	15	20	100	3	50%	0	100
2	Applied Statistics and Quantitative Techniques	PC-MTCM102	3	--	1	4	15	15	20	100	3	50%	0	125
3	Research Methodology and IPR	PC-MTCM103	2	--	1	3	15	15	20	100	3	50%	25	125
Program Elective Courses														
4	Program Elective-I	PE-MTCM101-103	3	--	--	3	15	15	20	100	3	50%	0	100
5	Program Elective-II	PE-MTCM111-113	3	--	--	3	15	15	20	100	3	50%	0	100
6	Program Elective-III	PE-MTCM121-123	3	--	--	3	15	15	20	100	3	50%	0	100
	Laboratory Courses													
7	Advanced Material testing Labb	PC-MTCM151	--	4	--	2	--	--	--	--	--	--	50	50
Vocational and Skill Enhancement														
8	Geo-Informatics Lab	SE-MTCM152	--	4	--	2	--	--	--	--	--	--	50	50
Indian Knowledge System Course														
9	Indian Knowledge System Course	IK-MTCM101-102	2	--	--	2	15	15	20	50	2	100%	0	100
	TOTAL					**25**								

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Program Elective-I Courses

Sr. No.	Code	Elective
1.	PE-MTCM101	Building Services and Maintenance
2.	PE-MTCM102	Construction materials
3.	PE-MTCM 103**	Accounting and Finance Management (Online Course)

Program Elective-II Courses

Sr. No.	Code	Elective
1	PE-MTCM111	Management of Infrastructure Services
2	PE-MTCM112	Advanced Construction Techniques
3.	PE-MTCM113	Construction Marketing

Program Elective-III Courses

Sr. No.	Code	Elective
1.	PE-MTCM121	Repair, Rehabilitation and Retrofitting Techniques
2	PE-MTCM122	Appraisal & Implementation of Infrastructure Projects
3	PE-MTCM123	Management of Housing Projects

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Scheme for F.Y.M.Tech. in Civil Engineering with Construction Management Course, (Semester - II) R23 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**		**Mid term**		**IE**	**Points**	**Time (Hrs)**			
Core Courses														
1	Project Monitoring and Control	PC-MTCM201	3	0	0	3	15	15	20	100	3	50%	0	100
2	Project Appraisal, Planning and Scheduling	PC-MTCM202	3	0	1	4	15	15	20	100	3	50%	25	125
3	Seminar/ Mini Project	PC-MTCM255	--	4	--	2	15	15	--	--	--	--	100*	100*
Program Elective Course														
4	Program Elective-IV	PE-MTCM201-203	3	--	--	3	15	15	20	100	3	50%	0	100
5	Program Elective-V	PE- MTCM211-214	3	--	--	3	15	15	20	100	3	50%	0	100
Open Elective Course														
6	Open Elective	OE-MTCM 201-205	3	--	--	3	15	15	20	100	3	50%	0	100
Vocational and Skill Enhancement														
7	Building Information Modeling Lab	SE-MTCM201	--	4		2	-	-	-	-	--	--	50	50
Laboratory Course														
8	Project Management Lab	PC-MTCM202	--	4	--	2	-	-	-	--	--	--	50	50
9	Ability Enhancement Course	AE-MTCM201-202	2			2	15	15	20	100	3	50%	0	100
	TOTAL					**24**								

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Program Elective – IV Courses

Sr. No.	Code	Elective
1.	PE-MTCM201	Risk and Value Management
2	PE-MTCM202	International Construction Business
3	PE-MTCM 203**	Infrastructure Planning and Managements (Online Course)

Program Elective –V Courses

Sr. No.	Code	Elective
1.	PE-MTCM211	Management of Construction Resources
2	PE-MTCM212	Total Quality Management in Construction
3	PE-MTCM213	International Contracting
4	PE-MTCM214**	Modern Construction Materials (Online Course)

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Scheme for F.Y.M.Tech. in Civil Engineering with Construction Management Course, (Semester - III) R23 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**		**Mid term**	**IE**	**Points**	**Time (Hrs)**			
Value Education Course													
1	Value Education Course	VE-MTCM301-302	2	-	-	2	30	20	100	3	50%	0	100
Field or Community Engagement Project													
2	Field or Community Engagement Project	CEP-MTCM301				2							100
Internship or Project													
							Report1		Report2		Seminar 1	Seminar 2	
3	Internship /Dissertation	DS-MTCM 301	4+24[$]			14	50*		100*		50*	100*	300
	TOTAL		**06**	**--**	**24**	**18**							500

For passing, Student must secure minimum 50% marks in all heads of passing taken together
* Examined by supervisor and at least one internal examiner.
$ - Contact hours with supervisor/mentor/guide = 4, Self learning hours = 24
Report 1 and Seminar 1 shall be based on Literature Survey on selected topic.
Report 2 and Seminar 2 shall be based on research gap, problem definition and methodology.

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Scheme for F.Y.M.Tech. in Civil Engineering with Construction Management Course, (Semester - IV) R23 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**		**Mid term**	**IE**	**Points**	**Time (Hrs)**			
Cocurricular Activity													
1	Co curricular course/activity/ Stress Management by Yoga	CC-MTCM401	-	-	1	1							100
Internship or Project													
							Report1		Report2		Seminar 1	Seminar 2	
2	Dissertation	DS-MTCM 401	4+24$			14	50*		100*		50*	100**	300
	TOTAL		**04**	**-**	**25**	**15**							400

For passing, Student must secure minimum 50% points in all heads of passing taken together.
Final Dissertation Viva-Voce will be conducted only if candidate has passed all lower semester examinations.
* 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=24
Report 1 and Seminar 1 shall be based on pre synopsis
Report 2 and Seminar 2 shall be based on Final presentation and dissertation viva voce

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List of Ability Enhancement Courses

Sr. No.	Code	Courses
1	**AE-MTCM201**	English for research paper writing
2	**AE-MTCM202**	Project Planning and Management

List of Indian Knowledge System

Sr. No.	Code	Courses	Sr. No.	Code	Audit Courses
1	**IKS-MTCM101**	Constitution of India	2	**IKS-MTCM102**	Related NPTEL/SWAYAM Courses

List of Value Education Course

Sr. No.	Code	Courses	Sr. No.	Code	Courses
1	**VE-MTCM301**	Disaster Management	2	**VE-MTCM302**	Related NPTEL/SWAYAM Courses

Open Elective

Sr. No.	Code	Elective
1	OE-MTCM201	Operations Research
2	OE-MTCM202	Legal Aspects in Construction
3	OE-MTCM203	Business Analytics
4	OE-MTCM204	Industrial Safety Engineering (*Online Course)
5	OE-MTCM205	Cost Management of Engineering Projects

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Evaluation for R23

1. 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.
2. 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. The assesement criteria for these courses will be as per swayam / NPTEL. After evalauation grades will be awarded as per institute criteria. 2, 3 Credits will be assigned for online courses of 8 and 12 weeks respectively.
3. Student must choose three program elective courses from those offered by the department in the semester.
4. Assesement criteria for Laboratory/Tutorial work i.e. weightage for assesement shall be as follows: (i) Attendance in Laboratory/Tutorial = 20%

   (ii) Journal/Drawing sheet/Sketch book = 40% (iii) MCQ/oral/test = 40% (5) L – Lecture P – Lab T - Tutorial

   * 50 Marks for seminar / mini project evaluation and 50 for presentation. The seminar / mini project report should be evaluated by supervisorand at least one internal examiner.

   * Note 1: 50 Marks for seminar / mini project evaluation and 50 for presentation. Note 2: The seminar report should be evaluated by supervisorand at least one internal examiner.
5. T1, T2: The courses under the category “Theory courses (PC, PE, OE)” and “Ability Enhancement Courses(AE)”. the evaluation is based on Test of 15 points each for one hour duration. Tentatively the first two modules of the course content will be covered in T1 and third and fourth modules of the course content will be covered in T2. Any change in the same will be informed by the course instructor. The courses under the category “Skill Enhancement”, “Value Education” and Indian Knowledge system”, the evaluation is based on activity (Presentation, Test, Mini project, Field project, Practical Examination) of 15 points each. This evaluation shall be conducted by course instructor.
6. IE: Internal Evaluation will be carried out by course instructor for 20 points. It is the continuous evaluation through out the semester.The evaluation will be based on minimum three of the following activities decided by course instructor. The maximum points that can be assigned to one activity will be 07. The course instructor needs to inform the students and head of the department about the activities those

will be considered for IE and the points assigned to them in first week of semester. The course instructor will submit the internal evaluation points (out of 20 with activity wise break up) to examination section before the beginning of End Semester examination.List of Activities: 1. Class Involvement 2. Assignments 3. Problem Solving 4. Mini project 5. Quizzes 6. Presentation 7. Oral

7. End semester evaluation: The courses under the category "Theory courses" and "Ability Enhancement Courses". the evaluation is based on End semester examination of 100 points. The end semester examination will cover all the modules of the course content.The courses under the category "Skill Enhancement", "Value Education" and "Indian knowledge system", the evaluation is based on activity (Presentation, Test, Mini project, Field project, Practical Examination).
8. $$$$ The evaluation for Co curricular course/ activity shall be defined by course instructor or activity evaluator. The evaluation of points shall be carriedout through out the semester and the grade Pass/ No pass will be awarded which will not be considered for CPI calculation.

Note: Refer Academic and Examination rules and regulations for further details.