

**Sardar Patel College of Engineering Andheri (West), Mumbai 400 058**  
**Year: 2026-27**



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



**MTech in Civil Engineering with Specialization in**  
**Construction Management**  
**Academic Evaluation Scheme/Credit System Year 2026-27**  
**Regulation 23 (R23)**

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

**Year: 2026-27**

| Scheme for F. Y. M. Tech In Civil Engineering with Specialization in Construction Management, (Semester - I) R23 Academic Year 2026-27 |                                                 |            |                            |          |          |          |           |                        |                          |    |                         |             |                            |              |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------|----------------------------|----------|----------|----------|-----------|------------------------|--------------------------|----|-------------------------|-------------|----------------------------|--------------|
| SR. NO.                                                                                                                                | Course Name                                     | Code       | Course Plan per Week (Hrs) |          |          | SL/ Sem. | Credits   | In Semester Evaluation |                          |    | End Semester Evaluation |             | End semester weightage (%) | Total Points |
|                                                                                                                                        |                                                 |            | L                          | P        | T        |          |           | Mid term (Points)      | Mid Term Duration (Hrs.) | IE | Points                  | Time (Hrs.) |                            |              |
|                                                                                                                                        | <b>Theory Courses</b>                           |            |                            |          |          |          |           |                        |                          |    |                         |             |                            |              |
| 1                                                                                                                                      | Construction Organization and Safety Management | PC-MTCM101 | 3                          | --       | 0        | 48       | 3         | 30                     | 1.5                      | 20 | 100                     | 3           | 50%                        | 100          |
| 2                                                                                                                                      | Applied Statistics and Quantitative Techniques  | PC-MTCM102 | 3                          | --       | 1        | 64       | 4         | 30                     | 1.5                      | 20 | 100                     | 3           | 50%                        | 100          |
| 3                                                                                                                                      | Research Methodology and IPR                    | PC-MTCM103 | 2                          | --       | 1        | 48       | 3         | 30                     | 1.5                      | 20 | 100                     | 3           | 50%                        | 100          |
|                                                                                                                                        | <b>Program Elective Courses</b>                 |            |                            |          |          |          |           |                        |                          |    |                         |             |                            |              |
| 4                                                                                                                                      | Program Elective-I                              | PE-MTCM11X | 3                          | --       | 0        | 48       | 3         | 30                     | 1.5                      | 20 | 100                     | 3           | 50%                        | 100          |
| 5                                                                                                                                      | Program Elective-II                             | PE-MTCM12X | 3                          | --       | 0        | 48       | 3         | 30                     | 1.5                      | 20 | 100                     | 3           | 50%                        | 100          |
| 6                                                                                                                                      | Program Elective-III                            | PE-MTCM13X | 3                          | --       | 0        | 48       | 3         | 30                     | 1.5                      | 20 | 100                     | 3           | 50%                        | 100          |
|                                                                                                                                        | <b>Laboratory Courses</b>                       |            |                            |          |          |          |           |                        |                          |    |                         |             |                            |              |
| 7                                                                                                                                      | Advanced Material testing Lab                   | PC-MTCM151 | --                         | 4        | --       | 4        | 2         | --                     | --                       | 25 | 25                      | --          | 100%                       | 50           |
|                                                                                                                                        | <b>Vocational and Skill Enhancement Course</b>  |            |                            |          |          |          |           |                        |                          |    |                         |             |                            |              |
| 8                                                                                                                                      | Geo-Informatics Lab                             | SE-MTCM101 | --                         | 4        | --       | 4        | 2         | --                     | --                       | 25 | 25                      | --          | 100%                       | 50           |
|                                                                                                                                        | <b>Indian Knowledge System Courses</b>          |            |                            |          |          |          |           |                        |                          |    |                         |             |                            |              |
| 9                                                                                                                                      | Indian Knowledge System                         | IK-MTCM10X | 2                          | --       | --       | 32       | 2         | 30                     | 1.5                      | 20 | 50                      | 2           | 100%                       | 100          |
| <b>TOTAL</b>                                                                                                                           |                                                 |            | <b>19</b>                  | <b>8</b> | <b>2</b> |          | <b>25</b> |                        |                          |    |                         |             |                            | <b>800</b>   |

L: Lecture T: Tutorial P: Practical SL: Self Learning IE : Internal Evaluation

1 Credit corresponds to 30 Hours of student engagement in a semester. Apart from actual contact hours (L,T,P), the remaining hours are utilized for self-learning by students

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**Program Elective-I Courses**

| <b>Sr. No.</b> | <b>Code</b> | <b>Elective</b>                                             |
|----------------|-------------|-------------------------------------------------------------|
| 1.             | PE-MTCM111  | Building Services and Maintenance                           |
| 2.             | PE-MTCM112  | Sustainable Construction materials                          |
| 3.             | PE-MTCM113  | Accounting and Finance Management<br>(NPTEL/SWAYAM Courses) |

**Program Elective-II Courses**

| <b>Sr. No.</b> | <b>Code</b> | <b>Elective</b>                       |
|----------------|-------------|---------------------------------------|
| 1              | PE-MTCM121  | Management of Infrastructure Services |
| 2              | PE-MTCM122  | Advanced Construction Techniques      |
| 3.             | PE-MTCM123  | Construction Marketing                |

**Program Elective-III Courses**

| <b>Sr. No.</b> | <b>Code</b> | <b>Elective</b>                                          |
|----------------|-------------|----------------------------------------------------------|
| 1.             | PE-MTCM131  | Repair, Rehabilitation and Retrofitting<br>Techniques    |
| 2              | PE-MTCM132  | Appraisal & Implementation of Infrastructure<br>Projects |
| 3              | PE-MTCM133  | Management of Housing Projects                           |

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| Scheme for F. Y. M.Tech In Civil Engineering with Specialization in Construction Management, (Semester - I) R23 Academic Year 2026-27 |                                            |            |                            |           |          |          |           |                        |                          |     |                         |             |                            |              |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------|----------------------------|-----------|----------|----------|-----------|------------------------|--------------------------|-----|-------------------------|-------------|----------------------------|--------------|
| SR. NO.                                                                                                                               | Course Name                                | Code       | Course Plan per Week (Hrs) |           |          | SL/ Sem. | Credits   | In Semester Evaluation |                          |     | End Semester Evaluation |             | End semester weightage (%) | Total Points |
|                                                                                                                                       |                                            |            | L                          | P         | T        |          |           | Mid term (Points)      | Mid Term Duration (Hrs.) | IE  | Points                  | Time (Hrs.) |                            |              |
| <b>Theory Courses</b>                                                                                                                 |                                            |            |                            |           |          |          |           |                        |                          |     |                         |             |                            |              |
| 1                                                                                                                                     | Project Monitoring and Control             | PC-MTCM201 | 3                          | --        | --       | 48       | 3         | 30                     | 1.5                      | 20  | 100                     | 3           | 50%                        | 100          |
| 2                                                                                                                                     | Project Appraisal, Planning and Scheduling | PC-MTCM202 | 3                          | --        | 1        | 48       | 4         | 30                     | 1.5                      | 20  | 100                     | 3           | 50%                        | 100          |
| 3                                                                                                                                     | Seminar/ Mini Project                      | PC-MTCM203 | --                         | 4         | --       | 4        | 2         | --                     | --                       | 50* | 50*                     | --          | 100%                       | 100*         |
| <b>Program Elective Course</b>                                                                                                        |                                            |            |                            |           |          |          |           |                        |                          |     |                         |             |                            |              |
| 4                                                                                                                                     | Program Elective-IV                        | PE-MTCM21X | 3                          | --        | --       | 48       | 3         | 30                     | 1.5                      | 20  | 100                     | 3           | 50%                        | 100          |
| 5                                                                                                                                     | Program Elective-V                         | PE-MTCM22X | 3                          | --        | --       | 48       | 3         | 30                     | 1.5                      | 20  | 100                     | 3           | 50%                        | 100          |
| <b>Open Elective Course</b>                                                                                                           |                                            |            |                            |           |          |          |           |                        |                          |     |                         |             |                            |              |
| 6                                                                                                                                     | Open Elective                              | OE-MTCMXXX | 3                          | --        | --       | 48       | 3         | 30                     | 1.5                      | 20  | 100                     | 3           | 50%                        | 100          |
| <b>Laboratory Course</b>                                                                                                              |                                            |            |                            |           |          |          |           |                        |                          |     |                         |             |                            |              |
| 7                                                                                                                                     | Project Management Lab                     | PC-MTCM251 | --                         | 4         | --       | 4        | 2         | --                     | --                       | 25  | 25                      | --          | 100%                       | 50           |
| <b>Vocational and Skill Enhancement Course</b>                                                                                        |                                            |            |                            |           |          |          |           |                        |                          |     |                         |             |                            |              |
| 8                                                                                                                                     | Building Information Modeling Lab          | SE-MTCM201 | --                         | 4         | --       | 4        | 2         | --                     | --                       | 25  | 25                      | --          | 100%                       | 50           |
| 9                                                                                                                                     | Ability Enhancement Course                 | AE-MTCM20X | 2                          | --        | --       | 32       | 2         | 30                     | 1.5                      | 20  | 100                     | 3           | 50%                        | 100          |
| <b>TOTAL</b>                                                                                                                          |                                            |            | <b>17</b>                  | <b>12</b> | <b>1</b> |          | <b>24</b> |                        |                          |     |                         |             |                            | <b>800</b>   |

L: Lecture T: Tutorial P: Practical SL: Self Learning IE : Internal Evaluation

1 Credit corresponds to 30 Hours of student engagement in a semester. Apart from actual contact hours (L,T,P), the remaining hours are utilized for self-learning by students

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**Program Elective – IV Courses**

| <b>Sr. No.</b> | <b>Code</b> | <b>Elective</b>                                                   |
|----------------|-------------|-------------------------------------------------------------------|
| 1.             | PE-MTCM211  | Risk and Value Management                                         |
| 2              | PE-MTCM212  | International Construction Business                               |
| 3              | PE-MTCM213  | Infrastructure Planning and Managements<br>(NPTEL/SWAYAM Courses) |

**Program Elective –V Courses**

| <b>Sr. No.</b> | <b>Code</b> | <b>Elective</b>                                      |
|----------------|-------------|------------------------------------------------------|
| 1.             | PE-MTCM221  | Management of Construction Resources                 |
| 2              | PE-MTCM222  | Total Quality Management in Construction             |
| 3              | PE-MTCM223  | International Contracting                            |
| 4              | PE-MTCM224  | Modern Construction Materials (NPTEL/SWAYAM Courses) |

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|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------|----------------------------|---|---|----------------|---------|-------------------------------------------------------------------------------|--------------------------|------|-------------------------|-------------|----------------------------|--------------|
| SR. NO .                                                                                                                              | Course Name                           | Code       | Course Plan per Week (Hrs) |   |   | SL (Min. Hrs.) | Credits | In Semester Evaluation                                                        |                          |      | End Semester Evaluation |             | End semester weightage (%) | Total Points |
|                                                                                                                                       |                                       |            | L                          | P | T |                |         | Midterm (Points)                                                              | Mid Term Duration (Hrs.) | IE   | Points                  | Time (Hrs.) |                            |              |
|                                                                                                                                       | Value Education Courses               |            |                            |   |   |                |         |                                                                               |                          |      |                         |             |                            |              |
| 1                                                                                                                                     | Value Education Course                | VE-MTCM30X | 2                          | - | - | 32             | 2       | 30                                                                            | 1.5                      | 20   | 100                     | 3           | 50%                        | 100          |
| Field or Community Engagement Project                                                                                                 |                                       |            |                            |   |   |                |         |                                                                               |                          |      |                         |             |                            |              |
| 2                                                                                                                                     | Field or Community Engagement Project | FP-MTCM301 |                            |   |   |                | 2       | Continuous evaluation shall be defined by course mentor or activity evaluator |                          |      |                         |             |                            | 100          |
| Internship/Dissertation                                                                                                               |                                       |            |                            |   |   |                |         |                                                                               |                          |      |                         |             |                            |              |
| 3                                                                                                                                     | Internship/Dissertation Phase - I     | DS-MTCM301 | 4#+38                      |   |   |                | 14      |                                                                               |                          | 100* | 200\$                   |             |                            | 300          |
| TOTAL                                                                                                                                 |                                       |            | 2                          |   |   |                | 18      |                                                                               |                          |      |                         |             |                            | 500          |

# - Contact hours with supervisor/mentor/guide = 4

\* - Evaluation shall be based on one or more presentations during the semester. 50% weightage shall be for the report and remaining 50% shall be for presentations.

The evaluation shall be carried out by the allotted guide and at least one internal examiner

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|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------|----------------------------|---|---|----------------|---------|--------------------------------------------------------------------------------------|--------------------------|------|-------------------------|-------------|----------------------------|--------------|
| SR. NO.                                                                                                                               | Course Name                                    | Code       | Course Plan per Week (Hrs) |   |   | SL (Min. Hrs.) | Credits | In Semester Evaluation                                                               |                          |      | End Semester Evaluation |             | End semester weightage (%) | Total Points |
|                                                                                                                                       |                                                |            | L                          | P | T |                |         | Mid term (Points)                                                                    | Mid Term Duration (Hrs.) | IE   | Points                  | Time (Hrs.) |                            |              |
|                                                                                                                                       | Co-curricular Activity                         |            |                            |   |   |                |         |                                                                                      |                          |      |                         |             |                            |              |
| 1                                                                                                                                     | Co curricular course/Stress management by Yoga | CC-MTCM40X | 1                          |   |   | 16             | 1       | \$ Continuous evaluation shall be defined by course instructor or activity evaluator |                          |      |                         |             |                            | 100          |
| Internship/Dissertation                                                                                                               |                                                |            |                            |   |   |                |         |                                                                                      |                          |      |                         |             |                            |              |
| 2                                                                                                                                     | Internship/Dissertation Phase - II             | DS-MTCM401 | 4#+38                      |   |   |                | 14      |                                                                                      |                          | 100* | 200 <sup>s</sup>        |             |                            | 300          |
| TOTAL                                                                                                                                 |                                                |            |                            |   |   |                | 15      |                                                                                      |                          |      |                         |             |                            | 400          |

# - Contact hours with supervisor/mentor/guide = 4

\* - Evaluation shall be based on one or more presentations during the semester. 50% weightage shall be for the report and remaining 50% shall be for presentations.

The evaluation shall be carried out by the allotted guide and atleast one internal examiner

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**List of Ability Enhancement Courses**

| Sr. No. | Code       | Courses                         |
|---------|------------|---------------------------------|
| 1       | AE-MTCM201 | English for Technical writing   |
| 2       | AE-MTCM202 | Project Planning and Management |

**List of Indian Knowledge System**

| Sr. No. | Code       | Courses               | Sr. No. | Code        | Audit Courses                |
|---------|------------|-----------------------|---------|-------------|------------------------------|
| 1       | IK-MTCM101 | Constitution of India | 2       | IKS-MTCM10X | Related NPTEL/SWAYAM Courses |

**List of Value Education Course**

| Sr. No. | Code       | Courses                                                    |
|---------|------------|------------------------------------------------------------|
| 1       | VE-MTCM301 | Disaster Management                                        |
| 2       | VE-MTCM302 | Introduction to Sustainability and Sustainable Development |
| 3       | VE-MTCM303 | Safety in Construction                                     |
| 4       | VE-MTCM30X | 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 | Cost Management of Engineering Projects |
| 5       | OE-MTCM205 | Artificial Intelligence in Engineering  |
| 6       | OE-MTCM20X | Related to NPTEL/Swayam Courses         |

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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 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.

3. Assessment criteria for Laboratory/Tutorial work i.e. weightage for assessment shall be as follows: (i) Participation 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 supervisor and 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 supervisor and at least one internal examiner.

4. Mid-Semester: The courses under the category “Theory courses (PC, PE, OE)” and “Ability Enhancement Courses (AE)”. The evaluation is based on Mid Term Exam having 30% weightage. 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 , lab work, Presentation, Test, Mini project, Field project, Practical Examination, viva. This evaluation shall be conducted by course instructor.

5. IE: Internal Evaluation will be carried out by course instructor for 20 points. It is the continuous evaluation throughout 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

6. 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 lab assignment/ activity (Presentation, Test, Mini project, Field project, Practical Examination).

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