

# **UNIVERSITY OF MUMBAI**



**Revised syllabus (Rev- 2016) from Academic Year 2016 -17**

**Under**

## **FACULTY OF TECHNOLOGY**

### **Civil Engineering**

**Second Year with Effect from A.Y. 2017-18**

**Third Year with Effect from A.Y. 2018-19**

**Final Year with Effect from A.Y. 2019-20**

**As per Choice Based Credit and Grading System**

**with effect from the A.Y. 2016-17**

**University of Mumbai**  
**Scheme of Instructions and Examination**  
**Fourth Year Engineering (Civil Engineering)**  
**(With effect from 2019-2020)**  
**(Semester -VII)**

| Subject Code | Subject Name                             | Teaching Scheme (Contact Hours) |           |           | Credits Assigned |          |           |           |
|--------------|--|---------------------------------|-----------|-----------|------------------|----------|-----------|-----------|
|              |  | Theory                          | Practs.   | Tut.      | Theory           | Pract.   | Tut.      | Total     |
| CE-C701      | Quantity Survey Estimation and Valuation | 4                               | 2         | --        | 4                | 1        | -         | 5         |
| CE-C702      | Theory of Reinforced Concrete Structures | 4                               | 2         | --        | 4                | 1        | --        | 5         |
| CE-C703      | Water Resource Engineering -II           | 3                               | 2         | --        | 3                | 1        | -         | 4         |
| CE-DLO704X   | Department Level Optional Course-III     | 3                               | 2         | --        | 3                | 1        | --        | 4         |
| ILO701X      | Institute Level Optional Course-I        | 3                               | --        |           | 3                | --       |           | 3         |
| CE-C705      | Project – Part I                         | --                              | 6         | --        | --               | 3        | --        | 3         |
| <b>Total</b> |  | <b>17</b>                       | <b>14</b> | <b>--</b> | <b>17</b>        | <b>7</b> | <b>--</b> | <b>24</b> |

| Subject Code | Subject Name                             | Examination Scheme  |            |            |                |                         |            |           |                 |            |
|--------------|--|---------------------|------------|------------|----------------|-------------------------|------------|-----------|-----------------|------------|
|              |  | Theory              |            |            |                |                         | Term Work  | Pract     | Oral            | Total      |
|              |  | Internal Assessment |            |            | End Sem. Exam. | Exam. Duration (InHrs.) |            |           |                 |            |
|              |  | Test1               | Test 2     | Avg        |                |                         |            |           |                 |            |
| CE-C701      | Quantity Survey Estimation and Valuation | 20                  | 20         | 20         | 80             | 4                       | 25         | --        | 25              | 150        |
| CE-C702      | Theory of Reinforced Concrete Structures | 20                  | 20         | 20         | 80             | 3                       | 25         | --        | 25              | 150        |
| CE-C703      | Water Resource Engineering-II            | 20                  | 20         | 20         | 80             | 3                       | 25         | --        | 25              | 150        |
| CE-DLO704X   | Department Level Optional Course-III     | 20                  | 20         | 20         | 80             | 3                       | 25         | --        | 25              | 150        |
| ILO701X      | Institute Level Optional Course I        | 20                  | 20         | 20         | 80             | 3                       | --         | --        | -               | 100        |
| CE-P705      | Project – Part I                         | --                  | --         | --         | --             | --                      | 50         | --        | 25 <sup>@</sup> | 75         |
| <b>Total</b> |  | <b>100</b>          | <b>100</b> | <b>100</b> | <b>400</b>     |                         | <b>150</b> | <b>--</b> | <b>125</b>      | <b>775</b> |

@ For Project Part-I (CE-P 706), the oral examination shall be based on the presentation/ seminar before the board of internal examiners to be appointed by the Head of the concerned Department.

**University of Mumbai**  
**Scheme of Instructions and Examination**  
**Fourth Year Engineering (Civil Engineering)**  
**(With effect from 2019-2020)**  
**(Semester- VIII)**

| Subject Code | Subject Name   | Teaching Scheme (Contact Hours) |           |          | Credits Assigned |          |          |           |
|--------------|--|---------------------------------|-----------|----------|------------------|----------|----------|-----------|
|              |  | Theory                          | Practs    | Tut.     | Theory           | Practs   | Tut      | Total     |
| CE-C801      | Design and Drawing of Reinforced Concrete Structures | 4                               | --        | 2        | 4                | --       | 1        | 5         |
| CE-C802      | Construction Management                              | 4                               | --        | 2        | 4                | --       | 1        | 5         |
| CE-DLO803X   | Department Level Optional Course- IV                 | 4                               | 2         | --       | 4                | 1        | --       | 5         |
| ILO802X      | Institute Level Optional Course- II                  | 3                               | --        | 1        | 3                | --       | 1        | 4         |
| CE-C804      | Project – Part II                                    | --                              | 12        | --       | --               | 6        | --       | 6         |
| <b>Total</b> |  | <b>15</b>                       | <b>14</b> | <b>5</b> | <b>15</b>        | <b>7</b> | <b>3</b> | <b>25</b> |

| Subject Code | Subject Name   | Examination Scheme  |           |           |              |     |                          |           |                 |            |       |
|--------------|--|---------------------|-----------|-----------|--------------|-----|--------------------------|-----------|-----------------|------------|-------|
|              |  | Theory              |           |           |              |     | Exam. Duration (In Hrs.) | Term Work | Pract           | Oral       | Total |
|              |  | Internal Assessment |           |           | End Sem Exam | Avg |                          |           |                 |            |       |
|              |  | Test1               | Test 2    | Avg       |              |     |                          |           |                 |            |       |
| CE-C801      | Design and Drawing of Reinforced Concrete Structures | 20                  | 20        | 20        | 80           | 4   | 25                       | --        | 25              | 150        |       |
| CE-C802      | Construction Management                              | 20                  | 20        | 20        | 80           | 3   | 25                       | --        | 25              | 150        |       |
| CE-DLO803X   | Department Level Optional Course-IV                  | 20                  | 20        | 20        | 80           | 3   | 25                       | --        | 25              | 150        |       |
| ILO802X      | Institute Level Optional Course II                   | 20                  | 20        | 20        | 80           | 3   | 25                       | --        | --              | 100        |       |
| CE-P 804     | Project – Part II                                    | --                  | --        | --        |              |     | 50                       | --        | 50 <sup>#</sup> | 100        |       |
| <b>Total</b> |  | <b>80</b>           | <b>80</b> | <b>80</b> | <b>320</b>   |     | <b>150</b>               |           | <b>125</b>      | <b>650</b> |       |

<sup>#</sup> The oral examination for the Project- Part II (CE-P 806) shall be based on the presentation/ seminar to be delivered by the projectee/s before the board of examiners. The board of internal examiners will comprise of the internal examiners and the external examiners to be approved by the University from the pool of eligible examiners.

Guidelines for Project, i.e., Dissertation (Part-I and II)

- (i) Students can form groups with minimum of 2 (Two) students and not more than 4 (Four) students.
- (ii) Faculty load: In Semester VII: 01 (One) clock hour per week per project group and in Semester VIII: 02 (Two) clock hours per week per project group.
- (iii) Each faculty member shall be permitted to guide maximum 04 (Four) project groups.

| <b>Department Level Optional Course – III</b><br>(Semester – VII)  | <b>Department Level Optional Course – IV</b><br>(Semester – VIII)  |
|--|--|
| CE-DLO7041: Pre-stressed Concrete<br>CE-DLO7042: Solid Waste management<br>CE-DLO7043: Pavement Sub-grade and Materials<br>CE-DLO7044: Structural Dynamics<br>CE-DLO7045: Application of GIS and Remote Sensing<br>CE-DLO7046: Foundation Analysis and Design<br>CE-DLO7047: Applied Hydrology and Flood Control | CE-DLO8031: Advanced Design of Steel Structures<br>CE-DLO8032: Industrial Waste Treatment<br>CE-DLO8033: Pavement Design and Construction<br>CE-DLO8034: Bridge Engineering and Design<br>CE-DLO8035: Appraisal and Implementation of Infrastructure Projects<br>CE-DLO8036: Soil Dynamics<br>CE-DLO8037: Design of Hydraulic Structures |

| <b>Institute Level Optional Course – I</b><br>(Semester –VII)  | <b>Institute Level Optional Course – II</b><br>(Semester – VIII)   |
|--|--|
| ILO7011: Product Lifecycle Management<br>ILO7012: Reliability Engineering<br>ILO7013: Management Information Systems<br>ILO7014: Design of Experiments<br>ILO7015: Operations Research<br>ILO7016: Cyber Security and Laws<br>ILO7017: Disaster Management and Mitigation Measures<br>ILO7018: Energy Audit and Management<br>ILO7019: Development Engineering | ILO8021: Project Management<br>ILO8022: Finance Management<br>ILO8023: Entrepreneurship Development and Management<br>ILO8024: Human Resources Management<br>ILO8025: Professional Ethics and Corporate Social Responsibility (CSR)<br>ILO8026: Research Methodology<br>ILO8027: Intellectual Property Rights and Patenting<br>ILO8028: Digital Business Management<br>ILO8029: Environment Management |