**New Scheme for Bachelor of Technology of Civil Engineering (CE), and Syllabus**

**For**

**Bachelor of Technology First Year in**

**Civil Engineering (CE),**

**To be implemented from session 2018- 2019 in, KUK**

**(Credit - based system)**

**As per Model Curriculum Provided by AICTE**

**Course Code and Definition for First Year Scheme**

|  |  |  |
| --- | --- | --- |
| **Course Code** | **Break up of Credits** | **Definitions** |
|  |  |
| BS | 26 | Basic Science |
| ES | 23 | Engineering Science |
| HM | 11 | Humanities and Social Sciences including Management |
| MC | Non Credits | Mandatory coarse |
| CE | 67 | Professional Core |
| PE | 18 | Program Elective |
| OE | 6 | Open Elective |
| CEL | 9 | Project Work, seminar and internship in industry |
| **Total** | **160** |  |

**Bachelor of Technology (CIVIL Engineering), KUK**

**Credit-Based (2018-19 Onwards)**

*SCHEME OF STUDIES/EXAMINATIONS (***Semester -III***)*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.** | **Course No./** | **Subject** | **L:T:P** | **Hours/** | **Credits** |  | **Examination Schedule (Marks)** |  | **Duration** |
| **No.** | **Code** |  |  | **Week** |  |  |  |  |  |  |  | **of exam** |
|  |  |  | **Major** |  | **Minor Test** | **Practical** |  | **Total** |
|  |  |  |  |  |  |  |  | **(Hours)** |
|  |  |  |  |  |  | **Test** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | HM-251A | Introduction to Civil Engineering | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | CE-201A | Introduction to solid Mechanics | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  ES-205A |  Engineering Mechanics | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | CE-203A | Fluid Mechanics | 2:1:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | CE-205A | Surveying & Geomatics | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | CE-207A | Building Construction Practice | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | CE-213LA | Fluid Mechanics Lab | 0:0:2 | 2 | 1 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | CE-215LA | Surveying & Geomatics Lab | 0:0:2 | 2 | 1 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | CE-217LA | Computer-aided Civil Engineering Drawing | 0:0:2 | 2 | 1 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | MC-201A | Environmental Sciences | 2:0:0 | 2 | 0 | -- | 100 | 0 | 100 | 3 |
|  11 |  **SIM-201A\*** | Seminar on Summer Internship\* |  2:0:0 |  2 |  0 |  -- |  50 |  0 | 50 |  |
|  |  | Total | 14:1:6 | 21 | 16 | 450 |  | 370 | 180 |  | 1000 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

**Note: \*Note: SIM-201A\* is a mandatory credit-less course in which the students will be evaluated for the Summer Internship (training) undergone after 2nd semester and students will be required to get passing marks to qualify.**

**Bachelor of Technology (CIVIL Engineering), KUK**

**Credit-Based (2018-19 Onwards)**

*SCHEME OF STUDIES/EXAMINATIONS (***Semester -IV***)*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.** | **Course No./** | **Subject** | **L:T:P** | **Hours/** | **Credits** |  | **Examination Schedule (Marks)** |  | **Duration** |
| **No.** | **Code** |  |  | **Week** |  |  |  |  |  |  |  | **of exam** |
|  |  |  | **Major** |  | **Minor Test** | **Practical** |  | **Total** |
|  |  |  |  |  |  |  |  | **(Hours)** |
|  |  |  |  |  |  | **Test** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | HM-252A | Civil Engineering - Societal & Global Impact | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | BS-104A | Mathematics –III  | 3:1:0 | 4 | 4 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  | Structural Analysis-I | 2:1:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  CE-202A |  |  |  |  |  |  |  |  |  |  |  |
| 4 | CE-204A | Design of Steel Structure-I | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | CE-206A | Soil Mechanics | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | CE-208A | Concrete Technology | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | CE-212LA | Structural Analysis-I Lab | 0:0:2 | 2 | 1 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | CE-216LA | Soil Mechanics Lab | 0:0:2 | 2 | 1 | -- |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | CE-218LA | Concrete Technology Lab | 0:0:2 | 2 | 1 | -- |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Total | 13:2:6 | 21 | 18 | 450 |  | 270 | 180 |  | 900 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

**Bachelor of Technology (CIVIL Engineering), KUK**

**Credit-Based (2018-19 Onwards)**

*SCHEME OF STUDIES/EXAMINATIONS (***Semester -V***)*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.** | **Course No./** | **Subject** | **L:T:P** | **Hours/** | **Credits** |  | **Examination Schedule (Marks)** |  | **Duration** |
| **No.** | **Code** |  |  | **Week** |  |  |  |  |  |  |  | **of exam** |
|  |  |  | **Major** |  | **Minor Test** | **Practical** |  | **Total** |
|  |  |  |  |  |  |  |  | **(Hours)** |
|  |  |  |  |  |  | **Test** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | HM-255A | Professional Practice, Law & Ethics | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | CE-301A | Structural Analysis-II | 2:1:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | CE-303A | Design of Concrete Structure-I | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | CE-305A | Hydrology  | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | CE-307A | Geotechnical Engineering | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | CE-309A | Engineering Geology | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | CE-311LA | Structural Analysis-II Lab | 0:0:2 | 2 | 1 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | CE-317LA | Geotechnical Engineering Lab | 0:0:2 | 2 | 1 | -- |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | CE-319LA | Engineering Geology Lab | 0:0:2 | 2 | 1 | -- |  | 40 | 60 |  | 100 | 3 |
| 10 | CE-315LA | Survey Camp | 0:0:0 | 0 | 0 | -- |  40 | 60 | 100 |  |
|  |  | Total | 12:1:6 | 19 |  16 | 450 |  | 310 | 240 |  | 1000 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

**Note: (1)** **All students have to undertake the Survey Camp for 2 weeks after 4th semester which will be evaluated in 5th semester.**

**Bachelor of Technology (CIVIL Engineering), KUK**

**Credit-Based (2018-19 Onwards)**

*SCHEME OF STUDIES/EXAMINATIONS (***Semester -VI***)*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.** | **Course No./** | **Subject** | **L:T:P** | **Hours/** | **Credits** |  | **Examination Schedule (Marks)** |  | **Duration** |
| **No.** | **Code** |  |  | **Week** |  |  |  |  |  |  |  | **of exam** |
|  |  |  | **Major** |  | **Minor Test** | **Practical** |  | **Total** |
|  |  |  |  |  |  |  |  | **(Hours)** |
|  |  |  |  |  |  | **Test** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 |  CE-302A | Design of Steel Structure-II | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | CE-304A | Transportation Engineering | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | CE-306A | Irrigation Engineering | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | OE-I | Open Elective-I | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | EL-I | Elective-I | 3:0:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | EL-II | Elective-II | 3:0:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | CE-314LA | Transportation Engineering Lab | 0:0:2 | 2 | 1 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | CE-316LA | Irrigation Engineering Drawing | 0:0:3 | 3 | 1.5 | -- |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | CE-318LA | Field Training-II | 0:0:0 | 0 | 0 | -- |  | 100 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | **\*MC-902A** | Constitution of India\* | 3:0:0 | 3 | 0 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Total | 17:0:5 | 22 | 16.5 | 525 |  | 430 | 120 |  | 1000 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

**Note: (1)** **\*MC-902A is a mandatory credit-less course in which the students will be required to get passing marks in the major test**

1. **SIM-903 is a credit course in which the students will be evaluated for the Summer Internship (training) undergone after 6th semester and whose credit will be evaluated in 7th semester.**

**OPEN ELECTIVE-I**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl.** | **Code No.** | **Subject** | **Semester** | **Credits** |
| **No** |  |  |  |  |
| 1. | OE-308A | Soft Skills and Interpersonal Communication | VI | 3 |
| 2. | OE-310A | Introduction to Art and Aesthetics | VI | 3 |
|  |  |  |  |  |
| 3. | OE-312A | Cyber Law and Ethics | VI | 3 |
| 3. | OE-320A | Human Resource Development and Organizational Behavior | VI | 3 |

 **ELECTIVE-I ELECTIVE-II**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.****No** | **Code No.** | **Subject** | **Semester** | **Credits** |  | **Sl.****No** | **Code No.** | **Subject** | **Semester** | **Credits** |
|  |  |  |  |  |  |  |  |
| 1. | EL-322A |  Disaster Preparedness & Planning | VI | 3 |  | 1. | EL-330A | Repair & Rehabilitation of Structures | VI | 3 |
| 2. | EL-324A |  Solid and Hazardous waste Management | VI | 3 |  | 2. | EL-332A | Construction Engineering & Management | VI | 3 |
| 3. | EL-326A |  Open Channel flow | VI | 3 |  | 3. | EL-334A | Structure Analysis by Matrix Method | VI | 3 |
| 4. | EL-328A |  Ground Water | VI | 3 |  | 4. | EL-336A | Structure Dynamics | VI | 3 |

**Bachelor of Technology (CIVIL Engineering), KUK**

**Credit-Based (2018-19 Onwards)**

*SCHEME OF STUDIES/EXAMINATIONS (***Semester -VII***)*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.** | **Course No./** | **Subject** | **L:T:P** | **Hours/** | **Credits** |  | **Examination Schedule (Marks)** |  | **Duration** |
| **No.** | **Code** |  |  | **Week** |  |  |  |  |  |  |  | **of exam** |
|  |  |  | **Major** |  | **Minor Test** | **Practical** |  | **Total** |
|  |  |  |  |  |  |  |  | **(Hours)** |
|  |  |  |  |  |  | **Test** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | CE-401A |  Design of Concrete Structure-II | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | ES-212A | Energy Science & Engineering | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | CE-405A |  Water Resources Engineering | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | OE-II | Open Elective-II | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | EL-III | Elective-III | 3:0:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | EL-IV |  Elective-IV | 3:0:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  CE-411LA | Concrete Drawing | 0:0:3 | 3 | 1.5 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | ES-212LA |  Energy Science & Engineering Lab | 0:0:2 | 2 | 1 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | CE-415LA | Minor Project | 0:0:8 | 8 | 4 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **SIM-903A** | Seminar on Summer Internship | 1:0:0 | 1 | 0 | -- |  | 50 | -- |  | 50 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Total | 15:0:13 | 28 | 22.5 | 450 |  | 320 | 180 |  | 950 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

**Note: (1) SIM-903 is a credit course in which the students will be evaluated for the Summer Internship (training) undergone after 6th semester.**

  **(2) The student have to carry out the MINOR Project either from Transportation Engineering, Hydraulic Engineering and Geotechnical**

 **Engineering.**

**OPEN ELECTIVE - II**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl.** | **Code No.** | **Subject** | **Semester** | **Credits** |
| **No** |  |  |  |  |
| 1. | OE-407A | Metro Systems and Engineering | VII | 3 |
| 2. | OE-409A | Indian Music System | VII | 3 |
| 3. |  OE-417A | Introduction to Philosophical Thoughts  | VII | 3 |

 **ELECTIVE-III ELECTIVE-IV**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.****No** | **Code No.** | **Subject** | **Semester** | **Credits** |  | **Sl.****No** | **Code No.** | **Subject** | **Semester** | **Credits** |
|  |  |  |  |  |  |  |  |
| 1. | EL-419A | Environmental Impact Assessment | VII | 3 |  | 1. | EL-427A | Railway Engineering | VII | 3 |
| 2. | EL-421A | Air and Noise Pollution Control | VII | 3 |  | 2. | EL-429A | Airport Planning and Design | VII | 3 |
| 3. | EL-423A | Foundation engineering | VII | 3 |  | 3. | EL-431A | River Engineering | VII | 3 |
| 4. | EL-425A | Rock Mechanics | VII | 3 |  | 4. | EL-433A | Pipeline Engineering | VII | 3 |

**Bachelor of Technology (CIVIL Engineering), KUK**

**Credit-Based (2018-19 Onwards)**

*SCHEME OF STUDIES/EXAMINATIONS (***Semester -VIII***)*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.** | **Course No./** | **Subject** | **L:T:P** | **Hours/** | **Credits** |  | **Examination Schedule (Marks)** |  | **Duration** |
| **No.** | **Code** |  |  | **Week** |  |  |  |  |  |  |  | **of exam** |
|  |  |  | **Major** |  | **Minor Test** | **Practical** |  | **Total** |
|  |  |  |  |  |  |  |  | **(Hours)** |
|  |  |  |  |  |  | **Test** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | CE-402A | Engineering Economics, Estimation & Costing | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | CE-404A | Bridge Engineering  | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | OE-III | Open Elective-III | 2:0:0 | 2 | 2 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | EL-V | Elective-V | 3:0:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | EL-VI |  Elective-VI | 3:0:0 | 3 | 3 | 75 |  | 25 | 0 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | CE-412LA | Compressive Viva | 0:0:0 | 0 | 0 | -- |  | -- | 50 |  | 50 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | CE-414LA | Major Project | 0:0:10 | 10 | 5 | - |  | 40 | 60 |  | 100 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | CE-416LA | Seminar-II | 2:0:0 | 2 | 0 | -- |  | 50 | 0 |  | 50 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Total | 14:0:10 | 24 | 19 | 375 |  | 215 | 110 |  | 700 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

**Note: The student have to carry out the MAJOR Project either from Structural Engineering, Environmental Engineering and Water Resource**

 **Engineering.**

**OPEN ELECTIVE - III**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl.** | **Code No.** | **Subject** | **Semester** | **Credits** |
| **No** |  |  |  |  |
| 1 | OE-406A | ICT for Development | VII | 3 |
|  |  |  |  |  |
| 2 | OE-408A | Comparative Study of Literature | VIII | 3 |
| 3 | OE-410A | History of Science & Engineering | VIII | 3 |
| 4 | OE-418A | Economic Policies in India | VIII | 3 |

 **ELECTIVE-V ELECTIVE-VI**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.****No** | **Code No.** | **Subject** | **Semester** | **Credits** |  | **Sl.****No** | **Code No.** | **Subject** | **Semester** | **Credits** |
|  |  |  |  |  |  |  |  |
| 1. | EL-420A | Prestress Concrete | VIII | 3 |  | 1. | EL-428A | Wastewater Treatment | VIII | 3 |
| 2. | EL-422A | Earthquake Engineering | VIII | 3 |  | 2. | EL-430A | Water and Air Quality Modelling | VIII | 3 |
| 3. | EL-424A | Offshore Engineering | VIII | 3 |  | 3. | EL-432A | Traffic Engineering and Management  | VIII | 3 |
| 4. | EL-426A | Structural Geology | VIII | 3 |  | 4. | EL-434A | Infrastructure Planning and Design | VIII | 3 |

**ANNEXURE-A**

**Additional Courses for B.Tech. (Honours Degree)Branch/Course: B.Tech. –Civil Engineering**

A student will be eligible to get Under Graduate degree ‘**B.Tech. with Honours’**, if he/she completes an additional 20 credits. These could be acquired through MOOCs or with in-house examination being conducted. In order to have an Honours degree, a student may choose minimum 20 credits from the following professional electives courses in addition, provided that the student must ensure the course is approved by the Competent Authority, Government of India. The professional electives courses may be selected excluding these. In addition to the following list, the student can also opt some more courses offered under MOOCs at Swayam portal from time to time.

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| **Bachelor of Technology (Civil Engg.)** |
| **Credit-Based Scheme of Studies/Examination** |
| **Additional Courses for B.Tech. (Honours Degree)** |
| **S.No.** | **Course Code** | **Subject** | **L:T:P** | **Hours/ Week** | **Week Credits** | **Examination Schedule (Marks)** | **Duration of Exam (Hrs)** |
| **Major Test** | **Minor****Test** | **Practical**  | **Total** |
| 1 | CE-501A | Contracts Mangement, construction Equipment & Automation | 3:1:0 | 4 | 4 | 100 | - | 0 | 100 | 3 |
| 2 | CE-502A | Advance Design of Steel Structure | 3:1:0 | 4 | 4 | 100 | - | 0 | 100 | 3 |
| 3 | CE-503A | Advanced Design of Concrete Structure | 3:1:0 | 4 | 4 | 100 | - | 0 | 100 | 3 |
| 4 | CE-504A | Earthquake Engineering | 3:1:0 | 4 | 4 | 100 | - | 0 | 100 | 3 |
| 5 | CE-505A | Urban Transport Planning | 3:1:0 | 4 | 4 | 100 | - | 0 | 100 | 3 |
| 6 | CE-506A | Hydraulic Modeling | 3:1:0 | 4 | 4 | 100 | - | 0 | 100 | 3 |
| 7 | CE-507A | Advanced Soil Mechanics | 3:1:0 | 4 | 4 | 100 | - | 0 | 100 | 3 |
| 8 | CE-513LA | Material Testing Lab | 0:0:2 | 2 | 1 | 0 | - | 100 | 100 | 3 |
| 9 | CE-514LA | Geomatics Lab | 0:0:2 | 2 | 1 | 0 | - | 100 | 100 | 3 |
| 10 | CE-515LA | Advance CAD Lab | 0:0:2 | 2 | 1 | 0 | - | 100 | 100 | 3 |