

Sant Gadge Baba Amravati University, Amravati

*Scheme of Implementation for
Four Year Undergraduate Degree Programme in
Engineering and Technology*

B. E. In CIVIL ENGINEERING

*In the faculty of
Science and Technology*

ACADEMIC EVALUATION SCHEME/CREDIT SYSTEM

Year: 2024-25

(Scheme of Teaching, Learning, Examination & Evaluation w.e.f. 2024-2025 and onwards)

| Scheme for First Year Four Year Undergraduate Engineering Degree Programme Semester–I/II [Common for all branches] | | | | | | | | | | | | | |
|---|---------------------------------|----------|-----------------------------|----|---|------|-----------|-------------------|-----|----------------------|-----|------------|----------------|
| SrNo. | CourseName | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | Practical Evaluation | | Total | ESE Time Hrs.) |
| | | | L | P | T | Hrs. | | IE | ESE | INT | EXT | | |
| Core Courses | | | | | | | | | | | | | |
| 1 | Applied Mathematics-I (BSC) | 1AL100BS | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 2 | Engineering Physics (BSC) | 1AL101BS | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 3 | Computer Programming (ESC) | 1AL102ES | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 4 | Engineering Mechanics (ESC) | 1AL103ES | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| Laboratory Courses | | | | | | | | | | | | | |
| 5 | Engineering Physics Lab (BSC) | 1AL104BS | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 6 | Computer Programming Lab (ESC) | 1AL105ES | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 7 | Engineering Mechanics Lab (ESC) | 1AL106ES | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 8 | Workshop (ESC) | 1AL107ES | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| Vocational and Skill Enhancement Courses(VSEC) | | | | | | | | | | | | | |
| 9 | Surveying Skills Lab | 1CE108VS | 1 | 2 | 0 | 3 | 2 | - | - | 50 | -- | 50 | - |
| Ability Enhancement Courses(AEC) | | | | | | | | | | | | | |
| 10 | Professional Communication | 1AL109AE | 1 | 2 | 0 | 3 | 2 | - | - | 25 | 25 | 50 | - |
| Co-curricular Course(CC) | | | | | | | | | | | | | |
| 11 | Co-curricular Course (CC) | 1AL110CC | 0 | 4 | 0 | 4 | 2 | - | - | 50 | -- | 50 | - |
| | TOTAL | | 14 | 16 | 0 | 30 | 22 | - | - | -- | -- | 750 | - |

L: Lecture P: Practical T:Tutorial ESE: EndSemester Exam IE: Internal Evaluation INT:Internal

EXT:External

Note: Suitable number of hours per week are allotted for continuous evaluation process for the above subjects. (Total contact hours per week = 42)

| Scheme for First Year Four Year Undergraduate Engineering Degree Programme Semester-I/II [Common for all branches] | | | | | | | | | | | | | |
|---|---|----------|-----------------------------|----|---|------|-----------|-------------------|-----|----------------------|-----|------------|----------------|
| SrNo. | CourseName | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | Practical Evaluation | | Total | ESE Time Hrs.) |
| | | | L | P | T | Hrs. | | IE | ESE | INT | EXT | | |
| Core Courses | | | | | | | | | | | | | |
| 1 | Applied Mathematics-II (BSC) | 1AL111BS | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 2 | Engineering Chemistry (BSC) | 1AL112BS | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 3 | Basic Electrical Engineering (ESC) | 1AL113ES | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 4 | Engineering Graphics (ESC) | 1AL114ES | 2 | 0 | 0 | 2 | 2 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| Laboratory Courses | | | | | | | | | | | | | |
| 5 | Engineering Chemistry Lab (BSC) | 1AL115BS | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 6 | Basic Electrical Engineering Lab (ESC) | 1AL116ES | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 7 | Engineering Graphics Lab (ESC) | 1AL117ES | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| Vocational and Skill Enhancement Courses (VSEC) | | | | | | | | | | | | | |
| 8 | Safety Practices at Construction Site | 2CE118VS | 1 | 2 | 0 | 3 | 2 | - | - | 50 | -- | 50 | - |
| Programme Core Course(PCC) | | | | | | | | | | | | | |
| 9 | Fundamentals of Civil Engineering (PCC) | 2CE119PC | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| Indian Knowledge System(IKS) | | | | | | | | | | | | | |
| 10 | Indian Traditional Knowledge | 2AL120IK | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| Co-curricular Course(CC) | | | | | | | | | | | | | |
| 11 | Co-curricular Course (CC) | 2AL121CC | 0 | 4 | 0 | 4 | 2 | - | - | 50 | - | 50 | - |
| | TOTAL | | 16 | 12 | 0 | 28 | 22 | - | - | - | - | 750 | - |

L: Lecture P: Practical T: Tutorial ESE: End Semester Exam IE: Internal Evaluation INT: Internal EXT: External

Note: Suitable number of hours per week are allotted for continuous evaluation process for the above subjects. (Total contact hours per week = 42)

Scheme for Multiple Entry and Exit

| Exit option-1(L4.5):Award of UG Certificate in Major with 44 credits and an additional 8 credits | | | | |
|--|----------|---|-------------------------------------|---|
| Exit Courses | | | | |
| 1 | 3CE241EC | Materials and Civil Engineering | Online/Offline certification Course | 4 |
| 2 | 3CE242EC | Introduction to Construction Equipments | Online/Offline certification Course | 4 |
| OR | | | | |
| 3 | 3CE404EL | Internship at Industry | Two months (288-320 hours) | 8 |

| Scheme for Second Year Four Year Undergraduate Engineering Degree Programme B.E. in CIVIL ENGINEERING (Semester-III) | | | | | | | | | | | | | |
|--|---|------------|-----------------------------|---|---|------|-----------|-------------------|-----|----------------------|-----|------------|----------------|
| SrNo. | CourseName | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | Practical Evaluation | | Total | ESE Time Hrs.) |
| | | | L | P | T | Hrs. | | IE | ESE | INT | EXT | | |
| Core Courses | | | | | | | | | | | | | |
| 1 | Strength of Material | 3CE200PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 2 | Concrete Technology | 3CE201PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 3 | Building Construction & Materials | 3CE202PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| Laboratory Courses | | | | | | | | | | | | | |
| 4 | Building Construction & Materials (Field Project) | 3CE400EL | 0 | 4 | 0 | 4 | 2 | - | - | 25 | 25 | 50 | - |
| 5 | Strength of Material - Lab | 3CE203PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 6 | Concrete Technology - Lab | 3CE204PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| Multidisciplinary Minor | | | | | | | | | | | | | |
| 7 | Multidisciplinary Minor-I* | 3 -- 205MD | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| Open Elective other than a particular Program | | | | | | | | | | | | | |
| 8 | Open Elective-I# | 3 --206OE | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| HSSMC(Entrepreneurship/ Economics/Management Course) | | | | | | | | | | | | | |
| 9 | Construction Management | 3CE207EM | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| Value Education Course(VEC) | | | | | | | | | | | | | |
| 10 | Environmental Science | 3SH208VE | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| | TOTAL | | 18 | 8 | 0 | 26 | 22 | - | - | - | - | 700 | - |

L: Lecture P: Practical T: Tutorial ESE: End Semester Exam IE: Internal Evaluation INT: Internal EXT: External

Note: Suitable number of hours per week are allotted for continuous evaluation process for the above subjects. (Total contact hours per week = 42)

Please refer the basket of open elective courses offered by other major disciplines.

*Please refer the list of Multidisciplinary Minor courses allocated separately by other major discipline.

| Scheme for Second Year Four Year Undergraduate Engineering Degree Programme B.E. in CIVIL ENGINEERING (Semester-IV) | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|

| Sr No. | Course Name | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | Practical Evaluation | | Total | ESE Time Hrs.) |
|--------|--|-----------|-----------------------------|----|---|------|---------|-------------------|-----|----------------------|-----|-------|----------------|
| | | | L | P | T | Hrs. | | IE | ESE | INT | EXT | | |
| | CoreCourses | | | | | | | | | | | | |
| 1 | Surveying | 4CE209PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 2 | Transportation Engineering | 4CE210PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| 3 | Building Planning, Designing | 4CE211PC | 2 | 0 | 0 | 2 | 2 | 40 | 60 | - | - | 100 | 3.00 Hrs. |
| | LaboratoryCourses | | | | | | | | | | | | |
| 4 | Surveying - Lab | 4CE212PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 5 | Transportation Engineering - Lab | 4CE213PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| | Multidisciplinary Minor | | | | | | | | | | | | |
| 6 | Multidisciplinary Minor–II* | 4 --214MD | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| | Vocational and Skill Enhancement Courses | | | | | | | | | | | | |
| 7 | Computer Aided Planning Design | 4CE215VS | 1 | 2 | 0 | 3 | 2 | - | - | 50 | - | 50 | - |
| | Open Elective other than a particular Program | | | | | | | | | | | | |
| 8 | Open Elective-II # | 4 --216OE | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| | HSSMC(Entrepreneurship/ Economics/Management Course) | | | | | | | | | | | | |
| 9 | Entrepreneurship in Civil Engineering | 4CE217EM | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| | Ability Enhancement Course (AEC) | | | | | | | | | | | | |
| 10 | Modern Indian Language | 4SH218AE | 2 | 0 | 0 | 2 | 2 | - | - | 25 | 25 | 50 | - |
| | Value Education Course (VEC) | | | | | | | | | | | | |
| 11 | Universal Human Values & Ethics | 4SH219VE | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00 Hrs. |
| | TOTAL | | 19 | 06 | 0 | 25 | 22 | - | - | - | - | 700 | - |

L: Lecture P: Practical T: Tutorial MSE: Mid Semester Exam ESE: End Semester Exam IE: Internal Evaluation INT: Internal EXT: External

Note: Suitable number of hours per week are allotted for continuous evaluation process for the above subjects. (Total contact hours per week = 42)

Please refer the basket of open elective courses offered by other major disciplines.

***Please refer the list of Multidisciplinary Minor courses allocated separately by other major discipline**

Scheme for Multiple Entry and Exit

| Exitoption-2 (L5.0): Award of UG Diploma in Major with 88 credits and an additional 8 credits | | | | |
|--|----------|-------------------------------------|-------------------------------------|---|
| Exit Courses | | | | |
| 1 | 5CE243EC | Quantity Survey & its equipment's | Online/Offline certification Course | 4 |
| 2 | 5CE244EC | Fundamentals of Structural Analysis | Online/Offline certification Course | 4 |
| OR | | | | |
| 3 | 5CE405EL | Internship at Industry | Two months(288-320 hours) | 8 |

| | Scheme for Third Year Four Year Undergraduate Engineering Degree Programme B.E. in CIVIL ENGINEERING(Semester-V) | | | | | | | | | | | | |
|-------|---|----------|--------------------------------|----|---|------|---------|----------------------|-----|-------------------------|-----|-------|------------------|
| SrNo. | CourseName | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | Practical Evaluation | | Total | ESETime Hrs.) |
| | | | L | P | T | Hrs. | | IE | ESE | INT | EXT | | |
| | CoreCourses | | | | | | | | | | | | |
| 1 | Environmental Engineering | 5CE220PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 2 | Geotechnical Engineering | 5CE221PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 3 | Design of Reinforced Concrete Structure | 5CE222PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 4 | Program Elective Course-I | 5CE223PE | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| | Laboratory Courses | | | | | | | | | | | | |
| 5 | Environmental Engineering-Lab | 5CE224PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 6 | Geotechnical Engineering-Lab | 5CE225PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 7 | Design of Reinforced Concrete Structure- Lab | 5CE226PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| | Multidisciplinary Minor | | | | | | | | | | | | |
| 8 | Multidisciplinary Minor-III* | 5--227MD | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00Hrs |
| 9 | Multidisciplinary Minor-IV* | 5--228MD | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00Hrs |
| 10 | Multidisciplinary Minor Lab-I* | 5--229ML | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| | Open Elective other than a particular Program | | | | | | | | | | | | |
| 11 | Open Elective-III # | 5--230OE | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00Hrs. |
| | TOTAL | | 18 | 08 | 0 | 26 | 22 | - | - | - | - | 750 | - |

L: Lecture **P:** Practical **T:** Tutorial **ESE:** End Semester Exam **IE:** Internal Evaluation **INT:** Internal **EXT:** External

Note: Suitable number of hours per week are allotted for continuous evaluation process for the above subjects. (Total contact hours per week = 42)

PEC-I: (i) 5CE223PE1-Repair & Rehabilitation of Structure (ii) 5CE223PE2-Waste Water Treatment Technology (iii) 5CE223PE3-Highway Construction & Management

Please refer the basket of open elective courses offered by other major disciplines.

*Please refer the list of Multidisciplinary Minor courses allocated separately by other major discipline

| Scheme for Third Year Four Year Undergraduate Engineering Degree Programme B.E. in CIVIL ENGINEERING(Semester-VI) | | | | | | | | | | | | | |
|--|---------------------------------------|----------|-----------------------------|----|---|------|---------|-------------------|-----|----------------------|-----|-------|---------------|
| SrNo. | CourseName | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | Practical Evaluation | | Total | ESETime Hrs.) |
| | | | L | P | T | Hrs. | | IE | ESE | INT | EXT | | |
| Core Courses | | | | | | | | | | | | | |
| 1 | Structural Analysis | 6CE231PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 2 | Fluid Mechanics | 6CE232PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 3 | Design of Steel Structure | 6CE233PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 4 | Program Elective Course-II | 6CE234PE | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 5 | Program Elective Course-III | 6CE235PE | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| Laboratory Courses | | | | | | | | | | | | | |
| 6 | Computational Structural Analysis-Lab | 6CE236PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 7 | Fluid Mechanics-Lab | 6CE237PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 8 | Design of Steel Structure-Lab | 6CE238PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| Multidisciplinary Minor | | | | | | | | | | | | | |
| 9 | Multidisciplinary Minor-V* | 6--239MD | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00Hrs |
| Vocational and Skill Enhancement Courses | | | | | | | | | | | | | |
| 10 | Non-Destructive Testing Methods | 6CE240VS | 1 | 2 | 0 | 3 | 2 | - | - | 50 | - | 50 | - |
| TOTAL | | | 18 | 08 | 0 | 26 | 22 | - | - | - | - | 750 | - |

L: Lecture **P:** Practical **T:** Tutorial **ESE:** End Semester Exam **IE:** Internal Evaluation **INT:** Internal **EXT:** External

Note: Suitable number of hours per week are allotted for continuous evaluation process for the above subjects. (Total contact hours per week = 42)

PEC-II : (i) 6CE234PE1-Advanced Construction Materials (ii) 6CE234PE2-Solid Waste Management (iii) 6CE234PE3-Airport Planning & Design

PEC-III: (i) 6CE235PE1-Advanced Concrete Technology (ii) 6CE235PE2-Ground Improvement Techniques (iii) 6CE235PE3-Solid and Hazardous Waste Management

*Please refer the list of Multidisciplinary Minor courses allocated separately by other major discipline

Scheme for Multiple Entry and Exit

| Exit option-3(L 5.5): Award of UG Degree in Major with 132 credits and an additional 8 credits | | | | |
|--|----------|----------------------------------|-------------------------------------|---|
| Exit Courses | | | | |
| 1 | 7CE310EC | Estimation & Costing | Online/Offline certification Course | 4 |
| 2 | 7CE311EC | Sustainable Construction Methods | Online/Offline certification Course | 4 |
| OR | | | | |
| 3 | 7CE406EL | Internship at Industry | Two months (288-320 hours) | 8 |

| Scheme for Final Year Four Year Undergraduate Engineering Degree Programme B.E. in CIVIL ENGINEERING(Semester-VII) | | | | | | | | | | | | | |
|---|--|----------|-----------------------------|----|---|------|---------|-------------------|-----|----------------------|-----|-------|--------------|
| SrNo. | CourseName | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | Practical Evaluation | | Total | ESETime Hrs) |
| | | | L | P | T | Hrs. | | IE | ESE | INT | EXT | | |
| Core Courses | | | | | | | | | | | | | |
| 1 | Engineering Economics, Estimation& Costing | 7CE300PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 2 | Hydrology & Water Resources Engineering | 7CE301PC | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 3 | Program Elective Course-IV | 7CE302PE | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 4 | Program Elective Course-V | 7CE303PE | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| 5 | Program Elective Course-VI | 7CE304PE | 3 | 0 | 0 | 3 | 3 | 40 | 60 | - | - | 100 | 3.00Hrs. |
| Laboratory Courses | | | | | | | | | | | | | |
| 6 | Engineering Economics, Estimation& Costing | 7CE305PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| 7 | Hydrology & Water Resources Engineering | 7CE306PC | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | - |
| Multidisciplinary Minor | | | | | | | | | | | | | |
| 8 | Multidisciplinary Minor-VI* | 7--307MD | 2 | 0 | 0 | 2 | 2 | 20 | 30 | - | - | 50 | 2.00Hrs. |
| 9 | Multidisciplinary Minor Lab.-II* | 7--308ML | 0 | 2 | 0 | 2 | 1 | - | - | 25 | 25 | 50 | . |
| Project | | | | | | | | | | | | | |
| 10 | Project-Phase I [#] | 7CE401PR | 0 | 4 | 0 | 4 | 2 | - | - | 100 | - | 100 | - |
| TOTAL | | | 17 | 10 | 0 | 27 | 22 | - | - | - | - | 800 | - |

L: Lecture P: Practical T: Tutorial ESE: End Semester Exam IE: Internal Evaluation INT: InternalEXT: External

Note: Suitable number of hours per week are allotted for continuous evaluation process for the above subjects. (Total contact hours per week = 42)

PEC-IV: (i) 7CE302PE1-Intelligent Transportation System (ii) 7CE302PE2-Town Planning (iii) 7CE302PE3-Environmental Impact Assessment

PEC-V: (i) 7CE303PE1-Advanced Structural Analysis (ii) 7CE303PE2-Construction Equipment's & automation (iii) 7CE303PE3-Advanced Surveying

PEC-VI: (i) 7CE304PE1-Hydraulic Engineering (ii) 7CE304PE2-Contracts Management (iii) 7CE304PE3-Foundation Engineering

***Please refer the list of Multidisciplinary Minor courses allocated separately by other major discipline.**

| Scheme for Final Year Four Year Undergraduate Engineering Degree Programme B.E. in CIVIL ENGINEERING (Semester-VIII) | | | | | | | | | | | | | |
|---|----------------------|----------|-----------------------------|----|---|------|---------|-------------------|-----|----------------------|-----|-------|--------------|
| SrNo. | CourseName | Code | Course Plan per Week (Hrs.) | | | | Credits | Theory Evaluation | | Practical Evaluation | | Total | ESETime Hrs) |
| | | | L | P | T | Hrs. | | IE | ESE | INT | EXT | | |
| Core Courses | | | | | | | | | | | | | |
| 1 | Research Methodology | 8CE309RM | 4* | - | - | 4 | 4 | 40 | 60 | - | - | 100 | 3Hrs. |
| 2 | Industry Internship | 8CE402EL | 0 | 24 | 0 | 24 | 12 | - | - | 100 | 200 | 300 | - |
| 3 | Project- Phase II | 8CE403PR | 0 | 4 | 0 | 4 | 2 | - | - | 50 | 50 | 100 | - |
| | TOTAL | | 4 | 28 | 0 | 32 | 18 | - | - | - | - | 500 | - |

L: Lecture P: Practical T: Tutorial ESE: End Semester Exam IE: Internal Evaluation INT: InternalEXT: External

Note: Suitable number of hours per week are allotted for continuous evaluation process for the above subjects. (Total contact hours per week = 42)

***The course on Research Methodology may be completed by the student in online mode (Swayam, MOOC's, any other platform approved by AICTE OR on the LMS platform offered by the Institute)**

Multi-Disciplinary Minor in Civil Engineering

Multi-Disciplinary Minor Courses (14 Credits) for other Major Disciplines

| Semester | Course Code | Course Type | Credits | | Course name |
|--------------|-------------|-------------|-----------|-----------|--|
| | | | T | P | |
| III | 3CE205MD | MDM-1 | 2 | 0 | Introduction to Civil Engineering |
| IV | 4CE214MD | MDM-2 | 2 | 0 | Water Purification and supply |
| V | 5CE227MD | MDM-3 | 2 | 0 | Building Construction and Planning |
| | 5CE228MD | MDM-4 | 2 | 0 | Property Acquisition and Legal aspect |
| | 5CE229ML | MDM-Lab-1 | 0 | 1 | Building Construction and Planning lab |
| VI | 6CE239MD | MDM-5 | 2 | 0 | Advance building material |
| VII | 7CE307MD | MDM-6 | 2 | 0 | Estimating and Costing |
| | 7CE308ML | MDM-Lab-2 | 0 | 1 | Estimating and Costing lab |
| Total | | | 12 | 02 | |

Open Electives of Civil Engineering

Open Elective Courses for other Major Disciplines

| Semester | Course Code | Credits | | Course name |
|----------|-------------|---------|---|---|
| | | T | P | |
| III | 3CE206OE1 | 3 | 0 | Disaster Management |
| | 3CE206OE2 | 3 | 0 | Water Resources Management |
| | 3CE206OE3 | 3 | 0 | Air and Noise Pollution Control Engineering |
| IV | 4CE216OE1 | 2 | 0 | Fundamental of Vastushastra |
| | 4CE216OE2 | 2 | 0 | Infrastructure Planning and Management |
| | 4CE216OE3 | 2 | 0 | Principles of Management |
| V | 5CE230OE1 | 2 | 0 | Introduction to Earthquake Engineering |
| | 5CE230OE2 | 2 | 0 | Green Building |
| | 5CE230OE3 | 2 | 0 | Construction Safety Management |

List of Courses for Double Minor / Honours in “Smart City”

**To be offered as Honours for Civil Engineering Discipline
for other major discipline it may be offered as Double Minor**

| Sr. No. | Course Code | Semester | Credits | Course Name |
|---------|-------------|----------|---------|---|
| 1 | 3CE245DH1 | III | 4 | Smart cities and urban innovation |
| 2 | 4CE246DH1 | IV | 4 | Smart City Infrastructure & Digital Integration |
| 3 | 5CE247DH1 | V | 4 | Smart Mobility and Transportation system |
| 4 | 6CE248DH1 | VI | 4 | Green Technology |
| 5 | 7CE407DH1 | VII | 2 | Minor Project on Smart Cities |
| Total | | | 18 | |

OR

List of Courses for Double Minor / Honours in “Sustainability Engineering”

**To be offered as Honours for Civil Engineering Discipline
for other major discipline it may be offered as Double Minor**

| Sr. No. | Course Code | Semester | Credits | Course Name |
|---------|-------------|----------|---------|---|
| 1 | 3CE245DH2 | III | 4 | Elements of Sustainable Engineering |
| 2 | 4CE246DH2 | IV | 4 | Renewable Energy |
| 3 | 5CE247DH2 | V | 4 | Sustainable Mobility solutions |
| 4 | 6CE248DH2 | VI | 4 | Sustainable and Green Construction |
| 5 | 7CE407DH2 | VII | 2 | Minor Project on Sustainability Engineering |
| Total | | | 18 | |

Eligible students may complete these requirements by enrolling in approved MOOCs via SWAYAM/NPTEL, ensuring fulfillment of the required 18 credits and academic standards as approved by BOS.

List of Courses for B.E. Civil Engineering Honours with Research Degree

| Sr. No. | Course Code | Proposed in Semester | Credits | Course name |
|----------------|--------------------|-----------------------------|----------------|---|
| 1 | 7CE408HR | VII | 9 | Research Project (Part 1) Problem Identification and definitions, Literature Review, Experimental Work |
| 2 | 8CE409HR | VIII | 9 | Research Project (Part 2) Prototype Development, Data Analysis, Publication |
| Total | | | 18 | |

Nomenclature: Name of Department offering the courses

| Acronym | Discipline of engineering/Department offering the course |
|---------|--|
| SH | Science and Humanities |
| ME | Mechanical Engineering |
| EE | Electrical Engineering |
| CS | Computer Science and Engineering |
| CE | Civil Engineering |
| IT | Information Technology |
| ET | Electronics & Telecommunication Engg. |
| TX | Textile Engineering |
| EP | Electrical (Electronics & Power) Engg. |
| AD | Artificial Engineering and Data Science |
| CH | Chemical Engineering |
| DS | CSE (Data Science) |

Courses

| Acronym | Course/Subject Vertical |
|---------|------------------------------------|
| BS | Basic Science Course |
| BL | Basic Science Laboratory |
| ES | Engineering Science Course |
| EL | Experiential Learning |
| PC | Program Course |
| PL | Program Laboratory |
| PE | Program Elective Course |
| MD | Multidisciplinary Minor Course |
| ML | Multidisciplinary Minor Laboratory |
| OE | Open Elective |
| EC | Exit Course |
| DH | Double Minor / Hons. Courses |

| Acronym | Course/Subject Vertical |
|---------|--|
| VS | Vocational Skill Enhancement Course |
| AE | Ability Enhancement Course |
| EM | Entrepreneurship/Economics/Management Course |
| IK | Indian Knowledge System |
| VE | Value Education Course |
| RM | Research Methodology |
| FP | Field Project |
| II | Industry Internship |
| PR | Project |
| CC | Co-curricular Course |
| AL | All (Common for all Branches) |
| HR | Honours with Research |