# B.E. in Civil Engineering

## I Semester - Physics Cycle

| Sl. No. | Course Code | Course Title | Teaching Department | Theory Lecture | Tutorial | Practical/ Drawing | Examination | | | Credits |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | T | P | CIE Marks | SEE Marks | Final Marks | |
| 1 | 22MATCE101 | Mathematics -I for Civil Engineering Stream | Maths | 2 | 2 | 2 | 100 | 100 | 100 | 4 |
| 2 | 22PHYCE102 | Physics for Civil Engineering Stream | Physics | 2 | 2 | 2 | 100 | 100 | 100 | 4 |
| 3 | 22ESCCE101 | Engineering Mechanics | Dept. of Civil Engg. | 2 | 2 | 0 | 100 | 100 | 100 | 3 |
| 4 | 22ESC1XX | Engineering Science Course-I | Respective Engg.Dept | 2 | 0 | 2 | 100 | 100 | 100 | 3 |
| 5 | 22ETC1XX | Emerging Technology Course | Any Dept. | 3 | 0 | 0 | 100 | 100 | 100 | 3 |
| 6 | 22ENG101 | Communicative English | Humanities | 1 | 0 | 0 | 50 | - | 50 | 1 |
| 7 | 22KSK101/ 22KBK102 | Samskrutika Kannada/Balake Kannada | Humanities | 1 | 0 | 0 | 50 | - | 50 | 1 |
| 8 | 22IDTCE101 | Innovation and Design Thinking | Dept. of Civil Engg. | 1 | 0 | 0 | 50 | - | 50 | 1 |
| | | | | | | TOTAL | | | | 20 |

## II Semester - Chemistry Cycle

| Sl. No. | Course Code | Course Title | Teaching Department | Theory Lecture | Tutorial | Practical/ Drawing | Examination | | | Credits |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | T | P | CIE Marks | SEE Marks | Final Marks | |
| 1 | 22MATCE201 | Mathematics -II for Civil Engineering Stream | Maths | 2 | 2 | 2 | 100 | 100 | 100 | 4 |
| 2 | 22CHECE202 | Chemistry for Civil Engineering Stream | Chemistry | 2 | 2 | 2 | 100 | 100 | 100 | 4 |
| 3 | 22CED201 | Computer-Aided Engineering Drawing | Mec. | 2 | 0 | 2 | 100 | 100 | 100 | 3 |
| 4 | 22ESC2XX | Engineering Science Course-II | Respective Engg.Dept | 3 | 0 | 0 | 100 | 100 | 100 | 3 |
| 5 | 22PLC2XX | Programming Language Course | Any Dept. | 2 | 0 | 2 | 100 | 100 | 100 | 3 |
| 6 | 22PWS26 | Professional Writing Skills in English | Humanities | 0 | 2 | 0 | 50 | - | 50 | 1 |
| 7 | 22ICO27 | Indian Constitution | Humanities | 0 | 2 | 0 | 50 | - | 50 | 1 |
| 8 | 22SFH28 | Scientific Foundations of Health | Any Dept. | 0 | 2 | 0 | 50 | - | 50 | 1 |

## III Semester

| Sl. No | Course Code | Course Title | Category | Teaching Department | Theory Lecture L | Tutorial T | Practical / Drawing P | Self-study Component S | CIE Marks | SEE Marks | Total Marks | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21MA3C01 | Mathematics 3 | BSC | MAT | 3 | 0 | 0 | 0 | 50 | 50 | 100 | 3 |
| 2 | 21CV3C01 | Building Materials and Construction | PC | CIV | 3 | 0 | 0 | 0 | 50 | 50 | 100 | 3 |
| 3 | 21CV3C02 | Mechanics of Fluids | | | 3 | 2 | 0 | 0 | 50 | 50 | 100 | 4 |
| 4 | 21CV3C03 | Surveying | | | 3 | 0 | 2 | 0 | 50 | 50 | 100 | 4 |
| 5 | 21CV3C04 | Mechanics of Deformable Bodies | | | 3 | 2 | 0 | 0 | 50 | 50 | 100 | 4 |
| 6 | 21CV3L01 | Metal and Timber Testing Lab | | | 0 | 0 | 2 | 0 | 50 | 50 | 100 | 1 |
| 7 | 21BG3C02 | Biology for Engineers | PI | | Completed during II Sem Vacation | | | | 50 | 50 | 100 | 2 |
| 8 | 21KA3H01 / 21CI3H01 | Kannada/CIPE | HSC | HSC | 2 | -- | -- | -- | 50 | 0 | -- | 0 |
| 9 | 21CV3A01 | AEC 3 -Drawing of Building Components | AEC | CIV | 0 | 0 | 2 | 0 | 50 | 50 | 100 | 1 |
| 10 | 21CV3U01 | Social Connect & Responsibility | UHV | CIV | -- | -- | -- | -- | -- | -- | -- | 0 |
| | | | | | | **TOTAL** | | | | | | 22 |

**Lateral Entry Students**

| Sl. No | Course Code | Course Title | Category | Teaching Department | L | T | P | S | CIE Marks | SEE Marks | Total Marks | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 21MA3N01 | Additional Maths 1 | BSC | MAT | 2 | 2 | 0 | 0 | 100 | 0 | 100 | 0 |

## IV Semester

| Sl. No | Course Code | Course Title | Category | Teaching Department | Theory Lecture L | Tutorial T | Practical / Drawing P | Self-study Component S | CIE Marks | SEE Marks | Total Marks | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21MA4C01 | Mathematics 4 | BSC | MAT | 3 | 0 | 0 | 0 | 50 | 50 | 100 | 3 |
| 2 | 21CV4C01 | Applied Hydraulic Engineering | PC | CIV | 3 | 0 | 0 | 0 | 50 | 50 | 100 | 3 |
| 3 | 21CV4C02 | Concrete Technology | | | 3 | 0 | 0 | 0 | 50 | 50 | 100 | 3 |
| 4 | 21CV4C03 | Structural Analysis | | | 3 | 2 | 0 | 0 | 50 | 50 | 100 | 4 |
| 5 | 21CV4C04 | Water Supply and Treatment | | | 3 | 0 | 2 | 0 | 50 | 50 | 100 | 4 |
| 6 | 21CV4L01 | Fluid Mechanics Laboratory | | | 0 | 0 | 2 | 0 | 50 | 50 | 100 | 1 |
| 7 | 21KA4H01/ 21CI4H01 | Kannada/CIPE | HSC | HSC | 2 | -- | -- | -- | 50 | 0 | -- | 0 |
| 8 | 21CV4A01 | AEC 4 - Computer Aided Drawing | AEC | CIV | 0 | 0 | 2 | 0 | 50 | 50 | 100 | 1 |
| 9 | 21CV4I01 | Universal Human Values & Prof. Ethics | UHV | CIV | 1 | 0 | 0 | -- | 50 | 0 | -- | 1 |
| 10 | 21CV4I01 | Summer Internship 1 | PI | CIV | Completed during II/III Sem Vacation | | | | 100 | 0 | 100 | 2 |
| | | | | | | **TOTAL** | | | | | | 22 |

**Lateral Entry Students**

| Sl. No | Course Code | Course Title | Category | Teaching Department | L | T | P | S | CIE Marks | SEE Marks | Total Marks | Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 21MA4N01 | Additional Maths 2 | BSC | MAT | 2 | 2 | 0 | 0 | 100 | 0 | 100 | 0 |

**V SEMESTER**

**DEPARTMENT OF CIVIL ENGINEERING**
**SCHEME OF TEACHING AND EXAMINATION**
**V SEMESTER B.E (AUTONOMOUS SCHEME)**

| Sl.No. | Subject Code | Subject | L | T | P | Cr. |
|--------|--------------|---------|---|---|---|-----|
| 1 | CV5C01 | Analysis of Indeterminate Structures | 3 | 2 | 0 | 4 |
| 2 | CV5C02 | Fundamentals of RC Design | 3 | 0 | 0 | 3 |
| 3 | CV5C03 | Hydrology and Irrigation Engineering | 3 | 2 | 0 | 4 |
| 4 | CV5C04 | Fundamentals of Geotechnical Engineering | 3 | 0 | 0 | 3 |
| 5 | CV5MXX | MOOC elective | 3 | 0 | 0 | 3 |
| 6 | CV5C05 | Engineering Management & Entrepreneurship | 3 | 0 | 0 | 3 |
| 7 | CV5L01 | Geotechnical Engineering Laboratory | 0 | 0 | 2 | 1 |
| 8 | CV5L02 | Computer Aided Drawing | 0 | 0 | 2 | 1 |
| 9 | CV5D01 | Design & Drawing of Irrigation Structures | 1 | 0 | 2 | 2 |
| **Total Credits** | | | | | | **24** |
| **Total Contact Hrs** | | | | | | **29** |

## VI SEMESTER

### DEPARTMENT OF CIVIL ENGINEERING
### SCHEME OF TEACHING AND EXAMINATION
### VI SEMESTER B.E (AUTONOMOUS SCHEME)

| Sl.No. | Subject Code | Subject | L | T | P | Cr. |
|---|---|---|---|---|---|---|
| 1 | CV6C01 | Design of RC Structural Elements | 3 | 0 | 0 | 3 |
| 2 | CV6C02 | Applied Geotechnical Engineering | 3 | 0 | 0 | 3 |
| 3 | CV6C03 | Design of Steel Structures | 3 | 0 | 0 | 3 |
| 4 | CV6C04 | Highway Engineering | 3 | 0 | 0 | 3 |
| 5 | CV6C05 | Engineering Economics | 3 | 0 | 0 | 3 |
| 6 | CV6E1XX | Dept. Elective - 1 | 3 | 0 | 0 | 3 |
| 7 | CV6L01 | Highway Material Testing Lab | 0 | 0 | 2 | 1 |
| 8 | CV6L02 | Computer Application Laboratory | 0 | 0 | 2 | 1 |
| 9 | CV6C06 | Minor Project | 0 | 0 | .. | 2 |
| 10 | CV6D01 | Detailing of RC and Steel Structures | 1 | 0 | 2 | 2 |
| | | **Total Credits** | | | | **24** |
| | | **Total Contact Hrs** | | | | **25** |

| Sl.No. | Subject Code | MOOC Elective |
|---|---|---|
| 1 | CV5M05 | Optimization methods for Civil Engineering |
| 2 | CV5M06 | Solar Energy Engineering and Technology |
| 3 | CV5M10 | Introduction to Engineering Seismology |
| 4 | CV5M11 | Rock Mechanics and Tunneling |

| Sl.No. | Subject Code | Elective –I |
|---|---|---|
| 1 | CV6E101 | Alternative Building Materials & Masonry Structures |
| 2 | CV6E102 | Matrix Methods of Structural Analysis |
| 3 | CV6E103 | Sustainable Technologies and Green Building concepts |
| 4 | CV6E104 | Hydraulic Structures |
| 5 | CV6E105 | Remote Sensing and GIS |

# VII SEMESTER

## DEPARTMENT OF CIVIL ENGINEERING
## SCHEME OF TEACHING AND EXAMINATION
## VII SEMESTER B.E (AUTONOMOUS SCHEME)

| Sl.No. | Subject Code | Subject | L | T | P | Cr. |
|---|---|---|---|---|---|---|
| 1 | CV7C01 | Quantity Surveying & Estimation | 3 | 0 | 0 | 3 |
| 2 | CV7C02 | Transportation Engineering | 3 | 0 | 0 | 3 |
| 3 | CV7E2XX | Dept. Elective - 2 | 3 | 0 | 0 | 3 |
| 4 | CV7E3XX | Dept. Elective - 3 | 3 | 0 | 0 | 3 |
| 5 | CV7IXX | Industry driven elective | 2 | 0 | 0 | 2 |
| 6 | CV7OXX | Open elective | 2 | 0 | 0 | 2 |
| 7 | CV7L01 | Environmental Engineering Laboratory | 0 | 0 | 2 | 1 |
| 8 | CV7L02 | Concrete and NDT Laboratory | 0 | 0 | 2 | 1 |
| 9 | CV7C03 | Seminar/ Paper Presentation | 0 | 0 | 2 | 1 |
| 10 | CV7C04 | Project Phase - 1 | 0 | 0 | 0 | 1 |
| 11 | CV7C06 | Competency Training | - | - | - | 0 |
| 12 | CV7D01 | Design & Drawing of Bridges | 1 | 0 | 2 | 2 |
| | | **Total Credits** | | | | **22** |
| | | **Total Contact Hrs** | | | | **25** |

| Sl.No. | Subject Code | Elective - 2 |
|---|---|---|
| 1 | CV7E201 | Pavement Evaluation and Management |
| 2 | CV7E202 | Architecture and Town Planning |
| 3 | CV7E203 | Repair & Rehabilitation of Structures |
| 4 | CV7E204 | Disaster Management |
| 5 | CV7E205 | Building Information Modeling |

| Sl.No. | Subject Code | Elective - 3 |
|---|---|---|
| 1 | CV7E301 | Foundation Engineering |
| 2 | CV7E302 | Applied Hydrology |
| 3 | CV7E303 | Computer Applications in Civil Engineering |
| 4 | CV7E304 | Solid Waste Management |
| 5 | CV7E305 | Fire Resistance of Structures |

| Sl.No. | Subject Code | Open Elective |
|---|---|---|
| 1 | CV7O01 | Geospatial Technology |
| 2 | CV7O02 | Fire Safety Management |
| 3 | CV7O03 | Occupational Safety and Health |
| 4 | CV7O04 | Intellectual Property and Rights |
| 5 | CV7O05 | Air pollution and Control |

## VIII SEMESTER

### DEPARTMENT OF CIVIL ENGINEERING
### SCHEME OF TEACHING AND EXAMINATION
### VIII SEMESTER B.E (AUTONOMOUS SCHEME)

| Sl.No. | Subject Code | Subject | L | T | P | Cr. |
|--------|--------------|---------|---|---|---|-----|
| 1 | CV8E4XX | Dept. Elective - 4 | 3 | 0 | 0 | 3 |
| 2 | CV8E5XX | Dept. Elective - 5 | 3 | 0 | 0 | 3 |
| 3 | CV8E6XX | Dept. Elective - 6 | 3 | 0 | 0 | 3 |
| 4 | CV8C01 | Internship | 0 | 0 | 0 | 3 |
| 5 | CV8C02 | Major Project | 0 | 0 | 8 | 4 |
| | | **Total Credits** | | | | **16** |
| | | **Total Contact Hrs** | | | | **17** |

| Sl.No. | Subject Code | Elective - 4 |
|--------|--------------|--------------|
| 1 | CV8E401 | Earth Retaining Structures |
| 2 | CV8E402 | Highway Construction |
| 3 | CV8E403 | Special Concretes & Construction Chemicals |
| 4 | CV8E404 | Advanced RCC Structures |
| 5 | CV8E405 | Pipe Network Analysis and Design |

| Sl.No. | Subject Code | Elective –5 |
|--------|--------------|-------------|
| 1 | CV8E501 | Construction and Project Management |
| 2 | CV8E502 | Environmental Protection |
| 3 | CV8E503 | Structural Dynamics and Earthquake Engineering |
| 4 | CV8E504 | Pre-stressed Concrete Structures |

| Sl.No. | Subject Code | Elective –6 |
|--------|--------------|-------------|
| 1 | CV8E601 | Construction Surveying |
| 2 | CV8E602 | Occupational Safety and Health for Civil Engineers |
| 3 | CV8E603 | Wastewater Engineering |
| 4 | CV8E604 | Water Resources Engineering and Management |