# B.Tech. Civil Engg

| Subject | Code | Name of the Course | Type of Course | L | T |
|---------|------|--------------------|----------------|---|---|
| 1 | G2UA120B | Basic Electrical & Electronics Engg | I | 3 | 0 |
| 2 | C1UC122B | Engineering Mathematics-I | I | 3 | 0 |
| 3 | C1UB129T | Chemical and Biological Materials | T | 3 | 0 |
| 4 | G3UB102C | Engineering Design and Prototyping | I | 3 | 0 |
| 5 | R1UC101B | Programming for Problem Solving - C | I | 3 | 0 |
| 6 | L1UB120T | YOGA | T | 2 | 0 |
| | | Total | | 17 | 0 |
| | | | | | |

| Subject | Code | Name of the Course | Type of Course | L | T |
|---------|------|--------------------|----------------|---|---|
| 1 | C1UC222B | Engineering Mathematics-II | T | 3 | 0 |
| 2 | G3UB201T | Engineering Mechanics | T | 3 | 0 |
| 3 | C1UD124B | Semiconductor and Optoelectronic Devices | I | 3 | 0 |
| 4 | G3UB201B | Engineeering Workshop | I | 2 | 0 |
| 5 | R1UC201C | OOPS Using Java | C | 3 | 0 |
| 6 | C1UB120T | Environmental Impact Analysis | Mng | 2 | 0 |
| 7 | O1UA104B | Communication Skills for Engineers | I | 2 | 0 |
| | | Total | | 18 | 0 |

| Subject | Code | Name of the Course | Type of Course | L | T |
|---------|------|--------------------|----------------|---|---|
| 1 | C1UC321T | Mathematics-III (Functions of Complex Vari | T | 3 | 0 |
| 2 | G1UA301T | Environmental Monitoring and Analysis | T | 2 | 0 |
| 3 | G1UA302B | Mechanics of Materials | I | 3 | 0 |
| 4 | G1UA303B | Fluid Mechanics | I | 3 | 0 |
| 5 | G1UA304C | Surveying | C | 3 | 0 |
| 6 | G1UA305B | Computer designs in Civil Engineering | I | 1 | 0 |
| 7 | K1UC320B | Communication Competency & Aptitude Bui | T | 1 | 0 |
| 8 | G1UA306B | Design Thinking | I | 1 | 0 |
| | | Total | | 17 | 0 |

| Subject | Code | Name of the Course | ype of Course | T | |
|---|---|---|---|---|---|
| | | | | L | T |
| 1 | C1UC421T | Probability and Statistics | T | 3 | 0 |
| 2 | G1UA401T | Hydrology & Hydraulic Systems | T | 3 | 0 |
| 3 | G1UA401C | Construction Engineering | C | 3 | 0 |
| 4 | G1UA401B | Geotechnical Engineering | I | 3 | 0 |
| 5 | G1UA402B | Remote Sensing & Geographical Information | I | 3 | 0 |
| 6 | G1UA403B | Structural Analysis | I | 3 | 0 |
| 7 | O1UA421B | Communication Competency & Aptitude Bui | T | 1 | 0 |
| 8 | G1UA306B | Design Thinking | I | 1 | 0 |
| | | Total | | 20 | 0 |

| Subject | Code | Name of the Course | ype of Course | T | |
|---|---|---|---|---|---|
| | | | | L | T |
| 1 | G1UA501B | Design of Reinforced Concrete Structures | I | 3 | 0 |
| 2 | G1UA502T | Water Supply & Treatment Systems | T | 3 | 0 |
| 3 | G1UA503C | Transportation Engineering | C | 3 | 0 |
| 4 | G1UA504T | Advanced Structural Analysis | I | 3 | 0 |
| 5 | G1UA505T | Foundation Engineering | T | 3 | 0 |
| 6 | Elective | Program Elective I | T | 3 | 0 |
| 7 | G1UA508R | Summer Internship | T | 0 | 0 |
| 8 | K1UC523B | Communication Competency & Aptitude Bui | T | 1 | 0 |
| | | Total | | 19 | 0 |

| Subject | Code | Name of the Course | ype of Course | T | |
|---|---|---|---|---|---|
| | | | | L | T |
| 1 | H1UB620T | Railway, Airports and Harbour Engineering | T | 2 | 0 |
| 2 | G1UA606T | Sewage Treatment  Systems | T | 2 | 0 |
| 3 | G1UA607T | Construction Estimating and Costing | C | 3 | 0 |
| 4 | G1UA608C | Open Elective - I | T | 3 | 0 |
| 5 | G1UA609T | Program Elective - II | T | 3 | 0 |
| 6 | G1UA610B | Civionics | I | 1 | 0 |
| 7 | G1UA611B | Civil-3D Designs | I | 1 | 0 |
| 8 | G1UA612L | Technical Paper writing | Pr | 0 | 0 |
| 9 | O1UA602B | Campus to Corporate | T | 1 | 0 |
| | | Total | | 16 | 0 |

| Subject | Code | Name of the Course | ype of Course | T | |
|---|---|---|---|---|---|
| | | | | L | T |
| 1 | NC | Program Elective - III | T | 3 | 0 |

| Subject | Code | Name of the Course | Type of Course | L | T |
|---|---|---|---|---|---|
| 2 | **NC** | Program Elective - IV | T | 3 | 0 |
| 3 | **NC** | Program Elective - V | T | 3 | 0 |
| 4 | G1UA703T | Construction Planning & Management | T | 3 | 0 |
| 5 | G1UA704C | Design of Steel Structures | C | 3 | 0 |
| 6 | G1UA706R | Capstone Phase-1 | | 0 | 0 |
| 7 | G1UA705R | Industrial Internship | | 0 | 0 |
| | | Total | | 15 | 0 |

| Subject | Code | Name of the Course | Type of Course | T | |
|---|---|---|---|---|---|
| | | | | L | T |
| 1 | NC | Capstone Phase 2 | | 0 | 0 |
| | | Total | | 0 | 0 |

Total Credits                         164

## List of Program Electives

| Sr.No. | Course Code | Course Name | Course type | L | T |
|---|---|---|---|---|---|
| 1 | | Ground Improvement Techniques | T | 3 | 0 |
| 2 | | Soil Dynamics and Machine Foundation | T | 3 | 0 |
| 3 | | Structures on Expansive Soils | T | 3 | 0 |
| 4 | | Mass Transport Management | T | 3 | 0 |
| 5 | | Traffic Engineering | T | 3 | 0 |
| 6 | | Highway Pavement Design | T | 3 | 0 |
| 7 | | Pavement Constructions | T | 3 | 0 |
| 8 | | Transportation Safety and Environment | T | 3 | 0 |
| 10 | | Air and Noise Pollution | T | 3 | 0 |
| 11 | | Solid Waste Management | T | 3 | 0 |
| 12 | | Bioenergy Technologies | T | 3 | 0 |
| 13 | | Environmental Ecology | T | 3 | 0 |
| 14 | | Rehabilitation of structures & Vaastu Principles | T | 3 | 0 |
| 15 | | Bridge Engineering | T | 3 | 0 |
| 16 | | Earthquake Engineering | T | 3 | 0 |
| 17 | | Advanced Concrete Design | T | 3 | 0 |
| 18 | | Construction Planning and Management | T | 3 | 0 |
| 19 | | Economics and Project Finance for Civil Engineers | T | 3 | 0 |
| 20 | | Construction Contracts Administration and Manage | T | 3 | 0 |

## B.Tech Civil Engg (With Specilization in Smart Cities)

| Sr.No. | Course Code | Course Name | Course type | L | T |
|---|---|---|---|---|---|
| 1 | New course | Sustainable Transportation | T | 3 | 0 |
| 2 | New course | Demography for Smart City | T | 3 | 0 |
| 3 | New course | Value Engineering and Valuation | T | 3 | 0 |
| 4 | New course | Infrastructure Development | T | 3 | 0 |
| 5 | New course | Metropolitan Planning, Development and Managem | T | 3 | 0 |
| 6 | New course | GIS for Smart Cities | I | 3 | 0 |
| 7 | New course | AI & ML for Smart Cities | I | 3 | 0 |
| 8 | New course | Smart Infrastructure Systems | T | 3 | 0 |
| 9 | New course | Advanced Materials for Smart Structures | T | 3 | 0 |
| 10 | New course | Urban Planning and Management | T | 3 | 0 |
| | | | Total | | |

## B.Tech Civil Engg (With Specilization in Computer Applications)

| Sr.No. | Course Code | Course Name | Course type | L | T |
|---|---|---|---|---|---|
| 1 | New course | Artificial Intelligence & Machine Learning Applica | C | 3 | 0 |
| 2 | New course | Geospatial Data Analysis | I | 2 | 0 |
| 3 | New course | Fuzzy Logic in Civil Applications | I | 3 | 0 |
| 4 | New course | IOT for Structural Health monitoring | I | 3 | 0 |
| 5 | New course | MATLAB Simulations for Civil Engineers | I | 2 | 0 |
| 6 | New course | Big data analytics | T | 3 | 0 |
| 7 | New course | Mobile Application Development | I | 2 | 0 |
| 8 | New course | Digital Twin Technology | T | 3 | 0 |
| | | | Total | | |

## B.Tech Civil Engg (With Specilization in Transportation Engineerin

| Sr.No. | Course Code | Course Name | Course type | L | T |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | New course | Transport Economics and Finance management | T | 3 | 0 |
| 2 | New course | Traffic Flow Analysis | T | 3 | 0 |
| 3 | New course | Highway construction and Maintenance | T | 3 | 0 |
| 4 | New course | Rural Road Technology | T | 3 | 0 |
| 5 | New course | Traffic Management & Design | T | 3 | 0 |
| 6 | New course | Public Transportation System | T | 3 | 0 |
| 7 | New course | Transportation Network Analysis | T | 3 | 0 |
| 8 | New course | ML and Deep learning techniques on transportation | I | 3 | 0 |
| 9 | New course | IOT application for Traffic engineering | I | 3 | 0 |
| 10 | New course | Transportation and Environmental Sustainability | T | 3 | 0 |

Total

## B.Tech Civil Engg (With Specilization in Entrepreneurship)

| Sr.No. | Course Code | Course Name | Course type | L | T |
|---|---|---|---|---|---|
| 1 | New course | Theory & Practices of Entrepreneurship | C | 3 | 0 |
| 2 | New course | Exploring Business opportunity and Market Survey | C | 3 | 0 |
| 3 | New course | Legal Incorporation & Incubation | C | 3 | 0 |
| 4 | New course | Market Launch and Funding | C | 3 | 0 |
| 5 | New course | Start Up launch and Market Penetration/Managing | I | 2 | 0 |
| 6 | New course | Behavioural Science. | T | 3 | 0 |
| 7 | New course | Quantitative Techniques for Management | I | 3 | 0 |

Total

| Teaching Scheme | | | Semester I |
| --- | --- | --- | --- |
| | | | Total Hrs |
| P | S | Credits | |
| 1 | 0 | 4 | 5 |
| 1 | 0 | 4 | 5 |
| 0 | 0 | 3 | 3 |
| 1 | 0 | 4 | 5 |
| 1 | 0 | 4 | 8 |
| 0 | 0 | 0 | 2 |
| 4 | 0 | **19** | 28 |
| | | | |

| Teaching Scheme | | | Semester II |
| --- | --- | --- | --- |
| | | | Total Hrs |
| P | S | Credits | |
| 1 | 0 | 4 | 5 |
| 0 | 0 | 3 | 3 |
| 1 | 0 | 4 | 5 |
| 1 | 0 | 3 | 4 |
| 1 | 1 | 5 | 8 |
| 0 | 0 | 0 | 2 |
| 1 | 0 | 3 | 4 |
| 5 | 1 | 22 | 31 |

| Teaching Scheme | | | Semester III |
| --- | --- | --- | --- |
| | | | Total Hrs |
| P | S | Credits | |
| 0 | 0 | 3 | 3 |
| 0 | 0 | 2 | 2 |
| 1 | 0 | 4 | 5 |
| 1 | 0 | 4 | 5 |
| 1 | 1 | 5 | 8 |
| 1 | 0 | 3 | 5 |
| 1 | 0 | 2 | 3 |
| 1 | 0 | 0 | 3 |
| 6 | 1 | 23 | 34 |

| | | | Semester IV |
|---|---|---|---|
| Teaching Scheme | | | Total Hrs |
| P | S | Credits | |
| 0 | 0 | 3 | 3 |
| 0 | 0 | 3 | 3 |
| 1 | 1 | 5 | 8 |
| 1 | 0 | 4 | 5 |
| 1 | 0 | 4 | 5 |
| 1 | 0 | 4 | 5 |
| 1 | 0 | 2 | 3 |
| 1 | 0 | 0 | 3 |
| 6 | 1 | 25 | 32 |
| | | | Semester V |
| Teaching Scheme | | | Total Hrs |
| P | S | Credits | |
| 1 | 0 | 4 | 5 |
| 0 | 0 | 3 | 3 |
| 1 | 1 | 5 | 8 |
| 0 | 0 | 3 | 3 |
| 0 | 0 | 3 | 3 |
| 0 | 0 | 3 | 3 |
| 0 | 0 | 1 | 0 |
| 1 | 0 | 2 | 3 |
| 3 | 1 | 24 | 28 |
| | | | Semester VI |
| Teaching Scheme | | | Total Hrs |
| P | S | Credits | |
| 0 | 0 | 2 | 2 |
| 0 | 0 | 2 | 2 |
| 1 | 1 | 5 | 8 |
| 0 | 0 | 3 | 3 |
| 0 | 0 | 3 | 3 |
| 1 | 0 | 2 | 3 |
| 1 | 0 | 2 | 6 |
| 1 | 0 | 0 | 2 |
| 1 | 0 | 2 | 3 |
| 5 | 1 | 21 | 32 |
| | | | Semester VII |
| Teaching Scheme | | | Total Hrs |
| P | S | Credits | |
| 0 | 0 | 3 | 3 |

| | | | |
|---|---|---|---|
| 0 | 0 | 3 | 8 |
| 0 | 0 | 3 | 3 |
| 0 | 0 | 3 | 3 |
| 1 | 1 | 5 | 8 |
| 0 | 0 | 3 | 0 |
| 0 | 0 | 1 | 0 |
| 1 | 1 | 21 | 25 |

| Teaching Scheme | | | Semester VIII |
|---|---|---|---|
| | | | Total Hrs |
| P | S | Credits | |
| 0 | 0 | 9 | 0 |
| 0 | 0 | **9** | 0 |

| P | S | C |
|---|---|---|
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |

| P | S | C |
|---|---|---|
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 1 | 0 | 4 |
| 1 | 0 | 4 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
|   |   | 32 |

| P | S | C |
|---|---|---|
| 1 | 1 | 5 |
| 1 | 0 | 3 |
| 1 | 0 | 4 |
| 1 | 0 | 4 |
| 2 | 1 | 5 |
| 0 | 0 | 3 |
| 2 | 1 | 5 |
| 0 | 0 | 3 |
|   |   | 32 |

**g)**

| P | S | C |
|---|---|---|

| | | |
|---|---|---|
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 0 | 0 | 3 |
| 1 | 0 | 4 |
| 1 | 0 | 4 |
| 0 | 0 | 3 |

32

| P | S | C |
|---|---|---|
| 1 | 1 | 5 |
| 1 | 1 | 5 |
| 1 | 1 | 5 |
| 1 | 1 | 5 |
| 6 | 0 | 5 |
| 0 | 0 | 3 |
| 2 | 0 | 4 |

32