# SARVAJANIK UNIVERSITY
## Sarvajanik College of Engineering and Technology
**Bachelor of Technology**
**Civil Engineering**

**B. Tech. Semester VII**

**Subject Name :** Project I **Subject Code:** BTCL16701
**Type of course :** PCC
**Prerequisite :** Students should have successfully completed foundational courses in areas such as town planning, structural analysis, geotechnical engineering, transportation engineering, fluid mechanics, surveying, and construction management. A strong understanding of core principles is crucial for undertaking a meaningful final year project. It is also desired that tl students posses competency in industry – standard software like AUTOCAD.
**Rationale :** The project provides students with the opportunity to apply the theoretical knowledge and practical skills acquired throughout their undergraduate studies to a real-world problem or scenario. This hands-on experience bridges the gap between classroom learning and professional practice.

**Teaching and Examination Scheme:**

| Teaching Scheme | | | | Theory Marks | | | Practical Marks | | Total |
|---|---|---|---|---|---|---|---|---|---|
| L | T | P | C | TEE | CA1 | CA2 | TEP | CA3 | 100 |
| 0 | 0 | 4 | 2 | -- | -- | -- | 60 | 40 | |

**CA1:** Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

**Content:**

- The project work will be carried out by a group of 3- 4 students (max). Students need to work on real life community/society-based project using the Design Thinking / problem definition process
- Problem statements will be provided by the faculties. Students may select the problem provided by the faculties or may turn up with the innovative ideas (practically applicable) and convince the faculty. Upon discussion with the Project Committee, the HOD and mentor, the project would be approved.
- Students working with NIP (New Initiative Program) may continue to work with the same.
- Project group need to present their work in front of entire department, as per the schedule given in the timeline every year.
- It is desirable to have publication/ patent/ SSIP grant as an outcome of the project.
- Project registration form will be uploaded on the home page of the department under Project Tab.

The project work will be carried out by a group of at the most 4 students. Students need to work on real life community/society based project using the Design Thinking process. It is essential for students to enhance and refine their learning by said process, keeping System Approach in mind while working on projects.

Following points need to be considered for Design Thinking Process

- Plan of Action
- Detailed Design / Problem definition (including all aspects of products, material, process, resources, standards etc.)
- Software and Hardware selection and validation (If used )
- Final working model / or proposal / plan, if proposed.

***The topic may be selected considering from the following points -***

1. Laboratory work involving constructional theoretical and design aspects of the project.
2. It can be practical need of the industry, which should involve system design aspect.
3. Survey of latest development in Civil Engineering and allied fields.

**End Semester Practical Examination:** An oral **Viva-Voce** examination, with detailed project report ( duly signed ) with PowerPoint presentation followed by hardware/software demonstration will be conducted at the end of the semester by a team of examiners.

**Course Outcome:**

| Sr. No. | CO Statement<br>After learning this subject students will be able to | Marks % weightage |
|---|---|---|
| CO-1 | Apply and integrate advanced civil engineering principles to analyze and solve complex project-specific engineering problems. | 15 |
| CO-2 | Conduct independent research, analyze data using appropriate methods, and draw well-supported conclusions to address project objectives. | 25 |
| CO-3 | Design and develop innovative, sustainable solutions that consider relevant codes, safety, environmental impact, and economic feasibility.. | 15 |
| CO-4 | Communicate technical information effectively through written reports, presentations, and teamwork to convey project findings. | 25 |
| CO-5 | Manage project timelines, resources, and deliverables ethically, demonstrating professional project management skills and develop leadership qualities. | 20 |

**Mapping with POs:**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1 |
| CO2 | 1 | 2 | 1 | 3 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 2 | 1 | 1 |
| CO3 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 3 | 2 | 2 |
| CO4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 | 1 | 3 | 1 |
| CO5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 3 | 2 | 1 | 3 | 1 |