

ABSTRACT

The objective of this project is to apply the concepts of theoretical knowledge obtained during the course of study to design a sustainable “school building” that integrates “CO₂ absorption technologies”. The project involves the design of a “reinforced concrete framed structure” with sustainable architectural elements aimed at reducing the carbon footprint. The total built-up area is carefully designed to include essential sections such as classrooms, laboratories, administrative offices, assembly halls, and outdoor learning spaces.

In this project, we referred to IS code books and technical resources to ensure the structural design adheres to the standards set forth by “IS code 456: 2000” using the limit state method. Key features of the design include a “green roof, vertical gardens, and eco-free building material” to absorb CO₂, along with effective systems for water supply and sanitation. Structural elements such as “slabs, beams, columns, footings, and staircases” were designed manually following the IS codes to ensure structural stability and functionality.

In addition, detailed “AutoCAD drawings” were prepared to illustrate the layout and design of the building, including the CO₂ absorption features. This project provides a comprehensive approach to school design, combining environmental sustainability with structural efficiency. All design details and drawings are presented in this report.

