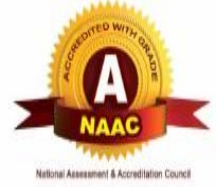




SETHU INSTITUTE OF TECHNOLOGY
(An Autonomous Institution | Accredited with 'A' Grade by NAAC)
PULLOOR, KARIAPATTI – 626 115.



DEPARTMENT OF CIVIL ENGINEERING

Course Code & Name: 19PSE510 PRECAST AND PREFABRICATED STRUCTURES

Activity Supports Employability / Entrepreneurship

Precast or Prefabricated concrete Construction, as is popularly known is one of the systems which include those buildings where the majority of structural components are standardized and produced in controlled environment at a factory or manufacturing site in a location away from the proposed building and then transported to the site for assembly.

Precast and Prefabricated construction forms the essence of speed in construction. The quality of such products has a greater degree of being assured when done in a factory environment.

Different Types of Prefabricated Concrete Construction:

- The Industrialized RC Frame System
- Precast Large Panel System
- Waffle Crete System
- Mixed System

The Industrialized RC Frame System



Precast Large Panel System



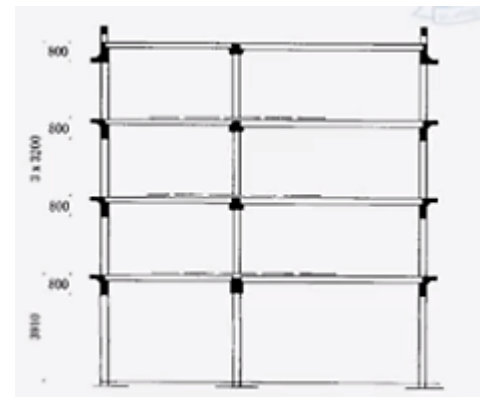
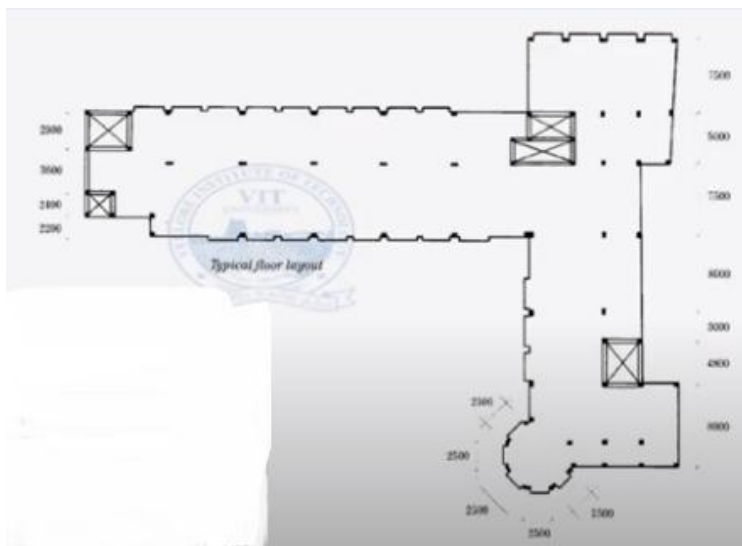
Waffle Crete System



Mixed System



CASE STUDY - Planning of a structure for prefabricated structures BOUROUGH COUNCIL OFFICE



Structural Precast Elements

- Footings
- Columns
- Beams
- Slabs
- Wall Panels
- Lintels
- Sills

Quality Control

- Sampling and Testing Samples
- Verification of supply and scrutiny of material suppliers
- Aggregate testing
 - Flakiness Index
 - Shrinkage
 - Relative Density
 - Water Absorption
 - Silt Testing
 - Sieve Analysis

- Testing Consistency of mix proportions
- Testing for workability
- Preparing and testing standard tests
 - Destructive or Non destructive
- Assessment of stripping, handling and transfer tests
- Monitoring curing cycles
- Routine tests as per specification
- Maintenance of Micro computer

Key Note:

- Case Studies as Group Assignments help to impart the skill on Employability in various advanced techniques that have been used in precast industries while manufacturing precast units.
- It will also enhance the entrepreneurship skills, since the student will be able to design special concrete such as **High Strength Grades of concrete, Self Compacting Concrete and Mass Concrete** as per latest Codal provisions IS 10262:2019.