

## **Building Construction and Building Material:**

### **Course Outcomes (Semester 01 and Semester 02) :**

- to understand elements of building construction with respect to substructure and superstructure
- to understand the construction of built forms from foundation to roof in various building practices
- to gain in depth knowledge and understanding of different building materials used for construction
- to understand the contextual relevance of natural and man made materials and their applicability in various construction practices.

### **Course Outcomes (Semester 03 and Semester 04) :**

- to understand the various concepts of framed RCC structure, components of RCC and various methods of construction of RCC structures.
- to understand structural framing, various construction systems like foundation systems, Wall systems, circulation systems and roofing systems.
- to get acquainted with not only the external construction systems but also internal systems like light weight partitioning and panelling, stairs in interior spaces and moisture and thermal protection in RCC framed structures.
- to get acquainted with not only the external construction systems but also internal systems like light weight partitioning and panelling, stairs in interior spaces and moisture and thermal protection in RCC framed structures.
- to get an in-depth understanding of structural systems of foundation, floor, wall, cladding and roofing in steel framed structures.

### **Course Outcomes (Semester 05 and Semester 06) :**

- to understand the characteristics and uses of various light weight materials for framed structures to be used as a building skin like curtain walls, infill panels of various materials, suspended glazing etc
- to get in depth knowledge of constructional details for canopies in various materials
- to understand types of foundation systems, shallow foundations, various types of raft foundations, along with buoyant and raft foundations
- to impart knowledge about various advanced floor systems for large bay sizes and precast and prefabricated building elements that can be used in construction of buildings

### **Course Outcomes (Semester 07) :**

- to understand the design of deep foundations with an emphasis on the suitability of construction with respect to soil conditions and structural suitability.

- to understand, design and construction of various types of combined footings
- to gain in depth knowledge and understanding of various methods of pile foundations and footings.
- to understand other ancillary construction details like pile caps, precast piles and in situ pile foundations to be studied and understood with the help of examples and site visits.
- to understand theory and principles of structural design of high rise buildings.
- to learn about various design considerations and construction methods for earthquake resistant structures.

**Course Outcomes (Semester 09 and Semester 10) :**

- to understand the advanced construction techniques for long span structures, long span beams, long span trusses, long span arches, cable structures, folded plates and space frames
- to study various structural systems and methods of construction required for intelligent structures and control of the structural response
- to be apply various structural construction details effectively in the design dissertation project along with case studies and examples