

GUJARAT TECHNOLOGICAL UNIVERSITY
M E (Civil) CONSTRUCTION ENGINEERING AND MANAGEMENT

CONSTRUCTION TECHNIQUES

Objectives :

To expose students for various construction techniques adopted on construction projects to manage such projects efficiently & effectively.

Course content:

Introduction to construction operations, erection work, automation processes and special equipments.

Introduction to modular coordination :

Principles, comparison and advantages of modular coordination.

Prefabrication in construction industry :

Principles, components, joints, storage handling and delivery of components.

Erection technology :

Erection cycle, methods for various types of buildings, plant and heavy steel structures.

Enabling structures for the construction project (including special types of formwork)

Introduction to special types of concrete and concreting methods : Ready Mix Concrete, Self compacted concrete etc.

Recent trends in construction techniques.

Site visits for

- (1) Techniques of excavations
- (2) Dewatering techniques.
- (3) Trenchless technology
- (4) Tunnelling operations.
- (5) Special temporary structures (scaffolds, formworks)
- (6) RMC plants, concreting operations.
- (7) Batchining mixing plants.
- (8) Hot mix plants, paving operations.
- (9) Special concreting operations.
- (10) Erection technology
- (11) Minimum four site visits for above topics.

References :

- (i) Construction Technology by S.S. Ataev - Mir Publishers
- (ii) Prefabrication of Reinforced Concrete by P. Dyanchenko & S. Mirotvorsky
- Mir Publishers
- (iii) Industrial Building and Modular Design by Henrick Nissen - Cement
Concrete Association, London.
- (iv) Construction Technology (Vol. I to IV) by R. Chudlay - Longman