Course Name:
Advanced Concrete Technology

Course Number:
20212

Credit:
3

Course Content (outline):

1. Study of the mix design, compressive and tensile stress of high-strength concrete
2. The role of high-strength concrete in high rise buildings
3. Mechanical properties and application of Fiber reinforced Concrete
4. Effect of concrete strength on its mechanical properties
5. Surveying the properties of reinforced concrete under impact loads
6. Surveying the properties of concrete admixtures
7. Pozzolanic concrete, Rice husk ash concrete , …
8. Relation between compressive strength and the weight of light weight concrete
9. Designing of RCC dams
10. Mix design of RCC Concrete
11. Effective parameters in Plastic concrete's behavior
12. The role of admixture in concrete structure's lifetime
13. Advanced method of concrete quality control
14. Method or repair and rehabilitation of concrete structures

References:

- Properties of Concrete, A.M. Neville, Wiley.
- Concrete Admixtures Handbook, Noyes.
- Manual of Concrete Practice, ACI.
- Technical Journals including ACI Materials Journal, Cement and Concrete Research, Materials and Structures, etc.