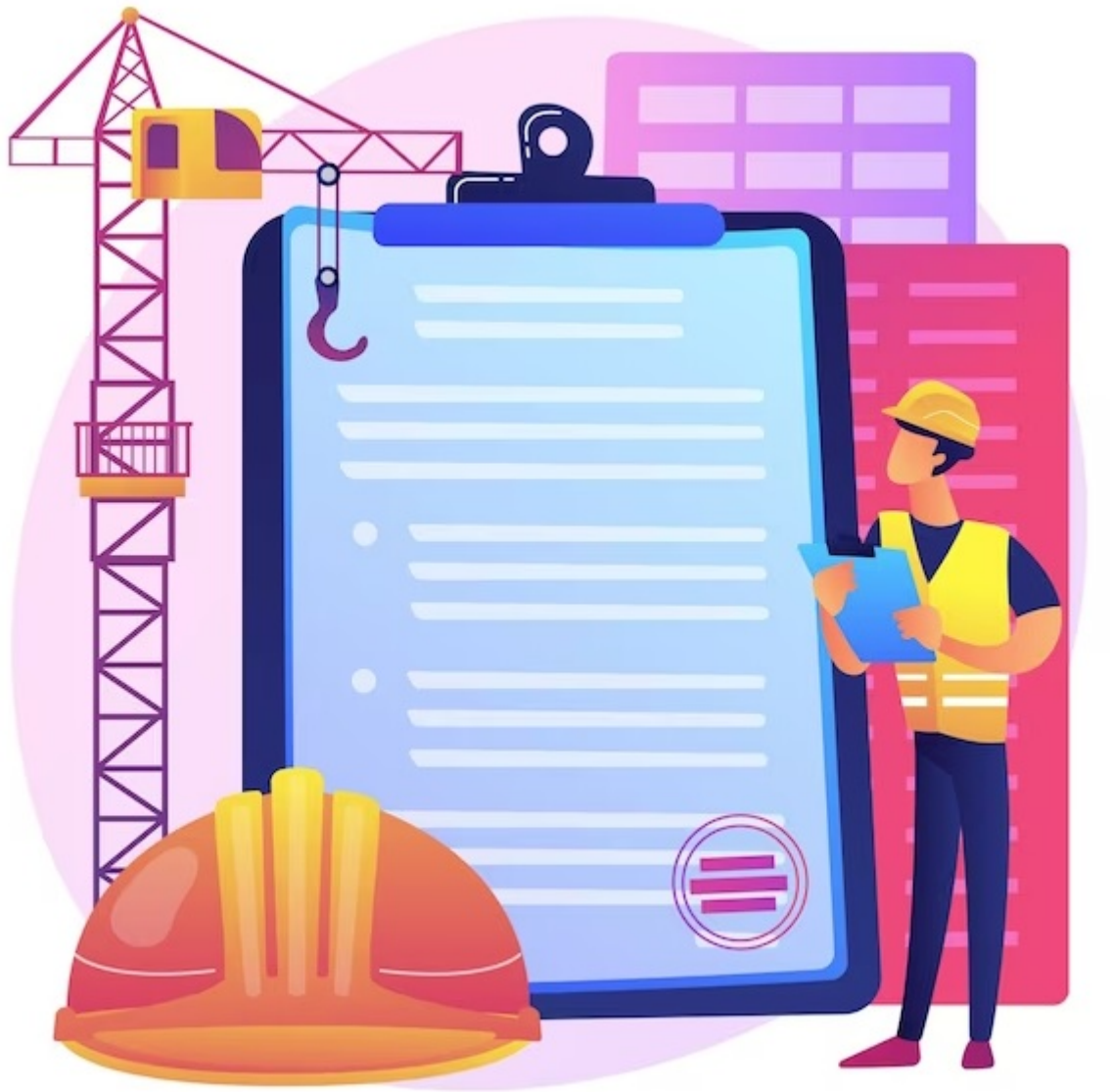


Advanced Techniques in Reinforced Concrete Structure Maintenance & Strengthening

Duration: 5 Days

Language: en

Course Code: IND13-111

Objective

Upon completion of this course, participants will be able to:

- Understand the main causes of deterioration in reinforced concrete structures.
- Develop skills to diagnose and assess structural damage.
- Learn about various methods for maintaining and strengthening concrete structures.
- Explore advanced materials and technologies for concrete repair and reinforcement.
- Enhance their ability to implement effective maintenance and strengthening strategies.

Audience

This course is intended for:

- Civil and structural engineers
- Construction managers and supervisors
- Maintenance professionals in the construction industry
- Architects and designers
- Graduate students in civil engineering and related fields

Training Methodology

The course employs a blend of instructional methods, including:

- Interactive lectures
- Hands-on diagnostic and repair sessions
- Group discussions and case studies
- Expert-led Q&A sessions
- Comprehensive course materials and resources

Summary

This advanced course provides a comprehensive understanding of the causes of deterioration in reinforced concrete structures and the latest methods for their maintenance and strengthening. Participants will gain insights into the mechanisms of concrete deterioration, learn diagnostic techniques, and explore modern strengthening methods. The course combines theoretical knowledge with practical applications, equipping construction professionals with the skills necessary to enhance the durability and performance of concrete structures.

Course Content & Outline

Section 1: Introduction to Concrete Deterioration

- Overview of reinforced concrete structures
- Common causes of concrete deterioration
- Environmental and mechanical factors affecting concrete durability

Section 2: Diagnostic Techniques

- Methods for assessing concrete condition
- Non-destructive testing (NDT) techniques
- Identifying and analysing structural damage

Section 3: Maintenance Strategies

- Routine maintenance practices for reinforced concrete
- Preventive measures to enhance durability
- Case studies of successful maintenance programs

Section 4: Strengthening Methods

- Traditional methods of concrete repair and strengthening
- Advanced materials for reinforcement: fibre-reinforced polymers (FRP), high-

performance concrete
- Techniques for structural strengthening: jacketing, external post-tensioning

Section 5: Practical Applications and Future Trends

- Real-world applications of concrete strengthening methods
- Emerging trends and innovations in concrete technology
- Developing action plans for maintenance and strengthening projects
- Course review and expert Q&A

Certificate Description

Upon successful completion of this training course, delegates will be awarded a Holistique Training Certificate of Completion. For those who attend and complete the online training course, a Holistique Training e-Certificate will be provided.

Holistique Training Certificates are accredited by the British Assessment Council (BAC) and The CPD Certification Service (CPD), and are certified under ISO 9001, ISO 21001, and ISO 29993 standards.

CPD credits for this course are granted by our Certificates and will be reflected on the Holistique Training Certificate of Completion. In accordance with the standards of The CPD Certification Service, one CPD credit is awarded per hour of course attendance. A maximum of 50 CPD credits can be claimed for any single course we currently offer.

Categories

Construction & Real Estate, Engineering

Tags

Reinforced Concrete Structure, Reinforced Concrete, Structure design

Related Articles

Sustainable Construction: Key Methods and Major Benefits

Discover sustainable construction—eco methods driving energy efficiency, job creation, and long-term environmental, economic, and social benefits.