

**Prof Incharge: Radhakrishna G Pillai, IITM**

**Relevant Course: Concrete Technology**

**Topic Name:** Durability of Concrete Structures

**Relevant Department:** Civil

**Relevant Semester:** 5<sup>th</sup> to 8<sup>th</sup> Semester students

**Pre- requisites:** One course on Construction Materials

**Topic Description and Outline:**

**Module 1:** Corrosion of steel in concrete structures (Basics of corrosion, chloride-induced corrosion, carbonation-induced corrosion, measurement techniques, prevention of corrosion)

**Module 2:** Deterioration concrete materials and systems (Permeability, sulphate attack, alkali-silica reaction, chemical/acid attack,

**Module 3:** Testing of durability of concrete (Compressive strength test, Oxygen permeability test, Water sorptivity test, Water permeability test, Chloride diffusion test, RCPT, Carbonation test, etc.)