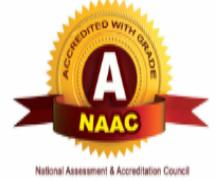




SETHU INSTITUTE OF TECHNOLOGY
(An Autonomous Institution| Accredited with 'A' Grade by NAAC)
PULLOOR, KARIAPATTI – 626 115.



DEPARTMENT OF CIVIL ENGINEERING

Activity Supports Employability/Entrepreneurship/Skill Development

The following activities are conducted in the Advanced Concrete Technology course for the students to support Employability and Skill Development,

Mix design can be defined as the process of selecting suitable ingredients of concrete and determining their relative proportions with the object of producing concrete of certain minimum strength and durability as economically as possible.

The various factors affecting the choice of concrete mix design are Compressive strength of concrete, Workability of concrete, Durability of concrete, Maximum nominal size of aggregate, Grading and type of aggregate, Quality Control at site.

Portland cement reacts chemically in contact with water to form a rigid matrix that bonds the aggregates together. ... The final result is a material with a relatively consistent strength in all directions. Concrete can withstand large compressive loads

The six most frequently used NDT methods are eddy-current, magnetic-particle, liquid penetrant, radiographic, ultrasonic, and visual testing. Nondestructive testing (NDT) methods are used to determine hardened concrete properties and to evaluate the condition of concrete in deep foundations, bridges, buildings, pavements, dams, and other concrete construction.



Ready mix concrete can be used for a vast array of applications including: civil engineering projects, road developments, foundations, bridges, walls, floors & bases, driveways, footpaths. Any type of construction that requires a durable material can benefit from the strength and convenience of ready mix concrete.



Self-healing concrete is mostly defined as the ability of concrete to repair its cracks autogenously or autonomously. It is also called self-repairing concrete. Cracks in concrete are a common phenomenon due to its relatively low tensile strength.

Self-healing concrete has dormant bacteria and a food source (starch) embedded in the concrete. When a crack appears in the concrete, water seeps in and reactivates the bacteria. After they awaken, the bacteria eat their packed lunch and then conveniently excrete calcite, which heals the crack.

Tests at microstructure level are commonly performed to maximize the reliability of the results. Self-healing to successful sealing of the crack width is the key issue. Visual observation (microscope, digital imaging and camera photographs) are the primary techniques.



Group Assignment activity promotes the teamwork among the students. Group assignment is given in analysis and design problem

Course Instructor

HOD/Civil