



SNS COLLEGE OF TECHNOLOGY

Vazhiyampalayam, Coimbatore, Tamil Nadu, 641035

An Autonomous Institution

Approved by AICTE New Delhi & Affiliated to Anna University Chennai

Accredited by NBA & Accredited by NAAC with “A++” Grade, Recognized by UGC

DEPARTMENT CIVIL ENGINEERING

19CEE409 – REPAIR AND REHABILITATION OF STRUCTURES

III YEAR / V SEMESTER

Unit 1 : MAINTENANCE AND REPAIR STRATEGIES





Maintenance



Maintenance Engineering is defined as the work done to keep the civil Engineering structures and work in conditions so as to enable them to carry out the functions for which they are constructed.

It is preventive in nature. Activities include inspection and works, necessary to fulfill the intended function, or to sustain original standard of service.

Scope of maintenance

- Petty repairs, replacements and structural repairs of buildings, white and color washing, distempering and painting at prescribed intervals
- Repair and renewal of furniture
- Operation, periodical maintenance, repairs renewals of machinery and equipment for electric etc
- Repair of roads, culverts and resurfacing the roads



Repair: *To bring back the position of the structure to its previous condition so it gives performance same as previously.*

It doesn't cover the strength aspect of the structures.

Some examples of repair.....

Decoration of structure, Painting, White Washing

- Checking the wiring of building
- Replastering of any wall if required
- Repairing of damaged flooring
- Repair of door and window
- Checking or repairing of pipe line connections, gas line connections and plumbing serveries.
- Relaying disturbed roof tiles



- Rehabilitation: *Rehabilitation of a building means returning a building or a structure to a useful state by means of repair, modification, or alteration.*
- It is related to the strength aspect of structures.
- To Bring back the position and condition of the structure by considering the strength aspect.
- Some of the examples of Rehabilitation.....
 - To fill the wide cracks using some suitable material
 - Injecting epoxy like material in to cracks in walls,columns,beams, etc.
 - Removal of damaged portion of masonry and reconstructing it using rich mortar mix.



Retrofitting:

❖ Assessing the existing condition of the structure and deciding which component of the structure should be repaired or restored based on all the future requirements of structure

❖ The retrofit enables to increase the original strength of the building.

The actions of Retrofitting includes

- Addition of shear wall or diagonal braces
- Modification of roofs
- Strengthening of foundation
- Modification of building plan etc...



Facts of Maintenance

Aims of Maintenance work classified as

- The avoidance of accidents, which may harm people or plant
- The continued operation of a facility
- The protection of the capital investment in the asset

Maintenance work is classified as

- Preventive maintenance
- Remedial maintenance
- Routine maintenance
- Special maintenance



1. Preventive maintenance

The maintenance work done before the defects occurred in the structure is called preventive structure

2. Remedial maintenance

- It is the maintenance done after the defects in the structure. It involves the following basic steps.
- Finding the deterioration
- Determining the cause
- Evaluating the strength of the existing structures
- Evaluating the need of the structures
- Selecting and implanting the repair procedure

3. Routine maintenance

It is the service maintenance attended to the structure periodically. It is depends upon specifications and materials of structure, purpose, intensity and condition of use.

4. Special maintenance

It is the work done under special condition and requires sanction and performed to rectify heavy damage.



Thank you !!!