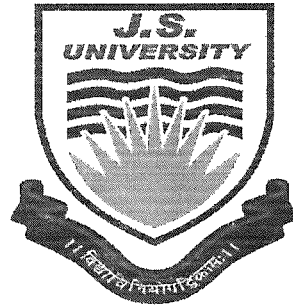


J.S. University, Shikohabad

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Value Added Course

(Repair And Rehabilitation Of Structures)

Faculty of CIVIL ENGINEERING

	J.S. University, Shikohabad Faculty of Civil Engineering	Value Added Course
		AY: 2021-22

Repair And Rehabilitation Of Structures

Learning Objective:

This Course will provide knowledge of Repair and rehabilitation of structures.


Duration: 30 Hours. (Theory and Practical)

Course Outcomes: -

Maximum Exposure has to be given on Practical Oriented

On successful completion of the course students will be able to:

1. Understand the properties of fresh and hardened concrete.
2. Know the strategies of maintenance and repair.
3. Get an idea of repair techniques.
4. Understand the properties of repair materials
5. Understand the retrofitting strategies and techniques

	J.S. University, Shikohabad Faculty of Civil Engineering	Value Added Course
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Syllabus Outline

1. Module-1

Deterioration of concrete in structures

Physical processes of deterioration like F & T abrasion, erosion, pitting, chemical processes like carbonation, chloride ingress, corrosion, alkali aggregate reaction, sulphate attack; their causes, mechanism, effect, preventive measures. Cracks: Cracks in concrete, type, pattern, quantification, measurement & preventive measures etc.

2. Module-2


N.D.T

Non destructive test methods for concrete including rebound hammer, ultrasonic pulse velocity, rebar locator, corrosion meter, penetration resistance and pull out test, core cutting etc. Corrosion: Methods for corrosion measurement and assessment including half-cell potential and resistivity, Mapping of data. Materials for repair: polymers and resins, self curing compound, FRP, Ferro cement etc; properties, selection criterion, bonding aspect.

3. Module-3

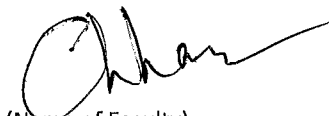
Repair Techniques

Grouting, jacketing, shotcrete, externally bonded plates and under water repair; materials, equipments, precautions process etc. Investigation for structures: Distress, observation and preliminary test methods. Case studies: related to rehabilitation of bridge piers, dams, canals, heritage structures, corrosion damaged structures.

	J.S. University, Shikohabad Faculty of Civil Engineering	Value Added Course
		AY: 2021-22

References


- 1) "Repair And Rehabilitation Of Concrete Structures" by Modi Poonam I
- 2) "Maintenance, Repair & Rehabilitation & Minor Works of Buildings". by Varghese
- 3) "Concrete Structures Repair Rehabilitation And Retrofitting" (Pb 2019) by BHATTACHARJEE



(Name of Faculty)

Course Coordinator


Er. Chhavi
Cet



(Name of Faculty)

Dean Academics

Dr. Akhilesh



(Name of Faculty)

Director/Principle/Dean of
Faculty/Department

Er. Anand