

**REPAIR & REHABILITATION OF STRUCTURES (11 – CE 531)**

**SYLLABUS**

L	T	P	Cr
3	0	0	3

**Introduction**

Deterioration of structures with aging; Need for rehabilitation

**Distress in concrete /steel structures**

Types of damages; Sources or causes for damages; effects of damages; Case studies

**Damage assessment and evaluation models**

Damage testing methods; Non-destructive testing methods

**Rehabilitation methods**

Grouting; Detailing; Imbalance of structural stability; Case studies

**Methods of Repair**

Shotcreting; Grouting; Epoxy-cement mortar injection; Crack ceiling

**Seismic Retrofitting of reinforced concrete buildings**

Introduction; Considerations in retrofitting of structures; Source of weakness in RC frame building – Structural damage due to discontinuous load path; Structural damage due to lack of deformation; Quality of workmanship and materials; Classification of retrofitting techniques; Retrofitting strategies for RC buildings – Structural level (global) retrofit methods; Member level (local) retrofit methods; Comparative analysis of methods of retrofitting

**Text Books:**

1. Diagnosis and treatment of structures in distress by R.N.Raikar, Published by R&D Centre of Structural Designers & Consultants Pvt.Ltd., Mumbai, 1994.
2. Handbook on Repair and Rehabilitation of RCC buildings, Published by CPWD, Delhi, 2002.
3. Earthquake resistant design of structures by Pankaj Agarwal and Manish Shrikhande, Prentice-Hall of India, 2006.