

CE/BOS/CE 641/0412

**K L UNIVERSITY**  
**ADVANCED DESIGN OF STRUCTURES (11 – CE 641)**

**SYLLABUS**

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Introduction: Analysis and design of portal frames, Design example for hinged and fixed frame.

Reinforced concrete deep beams:

Introduction to Deep Beams Parameters influencing design; IS code provisions; design of simply supported and continuous beam

Elevated water tanks: Introduction, Analysis & Design of INTZ Tanks including staging and continuous deep beams.

Earthquake resistant design: Concept of Earthquake resistant design, provisions of seismic code IS 1893 (Part-I), Response spectrum, Design spectrum, Design of buildings, Reinforcement detailing, Provisions of IS 13920

Introduction to plastic analysis: stress strain relationship of Mild steel, Elastic design versus Ultimate load design, Plastic bending of beams, Shape factor, Load factor, Plastic analysis, Procedure for plastic analysis, Design consideration

**Text Book:**

Advanced Reinforced Concrete Design, by N.Krishna Raju, CBS publishers, 2009.

**Reference Books:**

1. Advanced Reinforced Concrete Design by Varghese, Pentice Hall India, 1<sup>st</sup> edition 2004.
2. Advanced Reinforced Concrete Design (vol-II) by S. S. Bhavikatti, New age international, 2<sup>nd</sup> edition, 2009.
3. Design of steel structures by L.S Negi Tata Mc Graw Hill publishing company Limited, 2<sup>nd</sup> edition, 1997

Earthquake Resistant Design of structures by Pankaj Agarwal and Manish Shrikande PHI Learning Private Limited. 2006.