

0403333 Reinforced Concrete II

Introduction, limit state design philosophy, codes of practice, cases of loadings, bending moments envelopes, continuous beam & frames, deformation: deflections, crack control, Design of beam for twisting moments, redistribution of moments, combined footings, strap footings. Eccentrically loaded columns and Slender columns (principles of column interaction diagrams, effective column height, biaxial bending-technical background. Design details, circular columns (concentric & eccentric loading), computer programs. Design of Reinforced concrete slabs (flexural strength of slabs. Yield-line analysis. Johansen's stepped yield criterion. Energy dissipation in a yield line. Energy dissipation for a rigid region, Hillerborg's strip method flat slabs, waffle slabs). Design of bearing & Basement walls, design of stairs, steel reinforcement detailing.