

Shantilal Shah Engineering College- Bhavnagar

Applied Mechanics Department

B.E. 7th Semester Civil Engineering Subject:

Earthquake Engineering (2170612)

Assignment No. 5

Ductile Detailing

1. Draw the detailed sketch of (i) Different ways of beam jacketing as IS code and (ii) Placing of vertical bars and closed ties in columns as per IS code.
2. Explain ductile detailing of column as per IS 13920 – 1993. Also give limitation of this code.
3. If a column of size 350 mm × 550 mm is having the longitudinal reinforcement of 1.75 % of the gross cross-sectional area. Detail the longitudinal reinforcement of the column satisfying all criteria of IS 13920-1993 and workout the special confining hoop reinforcement as per the code along with neat sketch of longitudinal section. Take the clear height of the column = 4 m. Take concrete grade = M20, steel grade = Fe 415 and clear cover to longitudinal reinforcement = 40 mm
4. Draw and detail the typical qualitative reinforcement detailing of two span reinforced concrete continuous rectangular beam of dimension 230 mm × 500 mm as per IS 13920-1993 (ductile detailing provisions).

Assignment No. 6

Special Topics

1. Enlist the different methods of structural control and explain any one in detail.
2. Explain the concept of base isolation. Discuss its suitability.
3. What are the causes and effects of liquefaction? Write the preventative measures of liquefaction.
4. Explain Beam & Column jacketing with neat sketch.
5. Explain Repair, Restoration, Rehabilitation & Retrofitting
6. Discuss various energy dissipation devices.