GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester:III

Civil Engineering (Computer Aided Structural Analysis & Design)

Subject Name: **International Codes Based Design of Reinforced Concrete Structures (Major Elective - IV)**

Sr. No	Course content
1.	Design philosophy of American code ACI 318, British code BS 8110 and European Code EC -2
Design of RC elements based on above codes (any two) for following	
2.	**Flexure:** Analysis, design and detailing of rectangular & flanged beams, one-way & two way simply supported & continuous slabs.
3.	**Flexural shear:** Design and detailing of rectangular & flanged beams
4.	**Axial load :** Design and detailing of axially loaded Short columns.
5.	**Combined axial, shear and flexure:** Design and detailing of uniaxially & biaxially loaded short & long columns.
6.	**Shear, flexural, punching, torsion:** Design of isolated footing.
7.	**Bond and development length:** Bond stresses, bond & development length for bars under tension, compression.

Reference Books:

1. Reinforced Concrete Structures – Park and Pauley, John Wiley and Sons
2. Reinforced concrete**:** mechanics and design – MacGregor & Wight, Prentice-Hall
3. Reinforced and prestressed concrete structures – Kong and Evans, ELBS
4. Code of Practice ACI 318 – American Concrete Institute, Detroit
5. Code of Practice BS 8110
6. Code of Practice Euro code EC – 2