Optimal design of RC Columns subjected Touniaxial bending

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Abstract : Optimization is a technique adopted to identify the best solution, a set of many feasible solutions without having to evaluate all possible solutions. The conventional design of R.C.columns subjected to a load and uniaxial moment does not give a unique solution. The solution depends on the choice of the designer in selecting the design parameters like breadth of columns, depth of columns, and percentage of steel and grade of concrete. Eight hundred and sixty four columns were designed to demonstrate that optimal solution exists and the optimal cost is much lower than the cost of the columns designed by conventional method [1]. It is found that M40 grade of concrete is the best grade to be adopted for columns with load and uniaxial moment.

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