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Reg. No. : .....

Name : .....

Eighth Semester B.Tech. Degree Examination, April 2014
(2008 Scheme)
08.801 : DESIGN AND DRAWING OF REINFORCED CONCRETE STRUCTURES (C)

Time : 4 Hours Max. Marks : 100

Instructions : 1) *Answer **all** questions in Part – **A** and **two full** questions in Part – **B**.*

2) *Assume **suitable** data **wherever** necessary.*

3) ***Use** of IS 456, 3370 (I–IV), IRC 6 & 21 are **permitted**.*

PART – A **(2×10=20 Marks)**

1. Explain the various stability checks of retaining walls.
2. Explain the shear checks in a flat slab near a corner column.

PART – B **(2×40=80 Marks)**

3. a) Design a counterfort retaining wall for the following data :

   Height of soil to be retained – 7m,

   Angle of repose of soil – 30°

   Unit wt of soil – 18 kN/m^3, SBC of soil – 250 kN/m^2

   Stability need not be checked

   M_{25} concrete and Fe_{415} grade steel. **20**

   b) Prepare drawings of the retaining wall showing reinforcements in

   (i) Cross section of retaining wall in the counterfort

   (ii) Plan of base slab. **20**

   OR

P.T.O.

4. a) Design an over head circular water tank for a capacity of 70000 lit. Height of staging 7m. Staging need not be designed. Use M_{25} concrete and Fe_{415} grade steel. **20**

   b) Prepare drawing of the water tank showing the reinforcements in

      (i) Side walls and base slab

      (ii) Half sectional plan of wall and slab. **20**

5. a) Design a two-way slab of size 3m x 5m of a T beam bridge deck. Assume IRC class A-A loading. Use M_{25} concrete and Fe_{415} grade steel. **20**

   b) Prepare drawings of the slab showing reinforcements in

      (i) Plan of deck slab

      (ii) Cross sections of slab in two directions. **20**

OR

6. a) Design the interior panel of a flat slab 6m x 8m with drops to support a live load of $3kN/m^2$ and finishes $1kN/m^2$. The slab is supported on columns of 500 mm x 600 mm. Use M_{25} concrete and Fe_{415} grade steel. **20**

   b) Prepare drawings of the flat slab showing reinforcements in

      (i) Plan of slab

      (ii) Cross sections of slab in two directions. **20**