Model Question paper

VIII SEMESTER BTECH DEGREE EXAMINATION (C)

08.801 DESIGN AND DRAWING OF REINFORCED CONCRETE STRUCTURES

(2008 scheme)

Time: 4hrs Max: 100 marks

Answer all questions in part A and two full question in part B

Assume suitable data wherever necessary

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

Part A (10x2)

1. Design top dome covering for a circular water tank 8m inner diameter. Assume M25 concrete and Fe415 grade steel.
2. Discuss the design procedure of two way bridge deck slab

Part B (40 x 2)

3. a) Design a cantilever retaining wall for the following data
   Height of wal – 5.5m, Angle of repose of soil – 30^0
   Unit wt of soil – 18kN/m^3, SBC of soil – 300kN/m^2
   Coefficient of friction, μ - 0.65
   M20 concrete and Fe415 grade steel (20)

   b) prepare drawing showing the cross section of the cantilever retaining wall, and sectional elevation showing reinforcements in the stem of the retaining wall designed above (20)

(OR)

4. a) Design a rectangular water tank resting at ground level for a capacity of 60000lit. Use M25 concrete and Fe415 grade steel (20)
   b) prepare section drawing showing the reinforcements in the side walls and half sectional plan of wall and bottom slab designed above (20)

5. a) Design a slab bridge for two lane traffic with a clear span of 5m supported on abutments 450mm width. Assume IRC class AA loading. Use M30 concrete and Fe415 grade steel (20)
   b) prepare the plan and sectional drawings showing reinforcements of the bridge designed above. (20)

(OR)

6. a) Design the interior panel of a flat slab 5m x 6m with drops for a live load of 4kN/m^2. The slab is supported on coloumns of 450mmx450mm. Use M20 concrete and Fe415 grade steel. (20)
   b) prepare the plan and section drawings showing the reinforcements of the slab panel designed above. (20)