



Reg. No. : .....

Name : .....

**Eighth Semester B.Tech. Degree Examination, November 2013  
(2008 Scheme)  
08.801 – DESIGN AND DRAWING OF REINFORCED CONCRETE  
STRUCTURES (C)**

Time: 4 Hours

Max. Marks : 100

**Instruction :** Answer *all* questions. Use of relevant I.S. codes 456 – 2000, 3370 (Part I – IV), IRC 6 and 21 and design charts are permitted.

**PART – A**

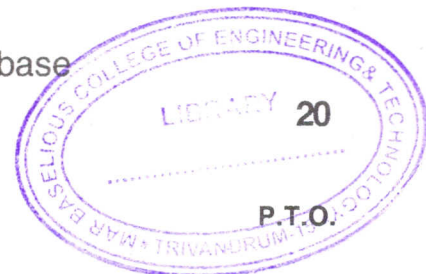
1. Explain the design steps of dome over circular water tank.
2. Compare the merits and demerits of Flat slab over ordinary slab. **(2×10=20 Marks)**

**PART – B**

3. a) Design a cantilever retaining wall to retain earth of 6 m height. The back fill is horizontal. The unit weight of soil is  $17.5 \text{ kN/m}^3$ . Coefficient of friction between soil and concrete is 0.5. Safe bearing capacity is  $250 \text{ kN/m}^2$ . The angle of repose  $30^\circ$ . Use  $M_{25}$  concrete and Fe 415 grade steel. **20**
- b) Draw to suitable scale the following views :
  - i) Vertical cross section of retaining wall
  - ii) Longitudinal section through stem. **20**

OR

4. a) Design a circular tank with flexible base for capacity 2 lakhs litres. The depth of water is to be 3 m, including free board of 0.25 m. Use  $M_{25}$  concrete and 154 grade steel. **20**
- b) Draw to suitable scale the following views :
  - i) Section showing reinforcement details of side wall and base
  - ii) Plan showing reinforcement of base slab.





## PART – C

5. a) Design the interior panel of a flat slab  $4.5 \text{ m} \times 5.5 \text{ m}$  subjected to a live load of  $5 \text{ kN/m}^2$ . Use  $M_{20}$  concrete and Fe 415 grade steel. 20

b) Draw to suitable scale the following views :

i) Plan showing bottom reinforcement

ii) Cross section through column strip. 20

OR

6. a) Design a slab bridge for the following data. Clear span 7 m carriage way 7 m. Thickness of wearing coat – 8 cm. Live load - class AA tracked. Use  $M_{25}$  concrete and 415 grade steel. 20

b) Draw to suitable scale :

i) Plan showing reinforcement details

ii) Cross section showing reinforcement details. 20