



Reg. No. : .....

Name : .....

**Eighth Semester B.Tech. Degree Examination, December 2016  
(2008 Scheme)  
08.801 : DESIGN AND DRAWING OF REINFORCED CONCRETE  
STRUCTURES (C)**

Time : 4 Hours

Max. Marks : 100

- Note :** i) *Part – A is compulsory and answer two full questions in Part – B.*  
ii) *Assume necessary data.*  
iii) *Necessary code book is permitted.*

**PART – A**

1. Explain how impact factor is calculated for Highway bridges. **10**
2. Explain with a neat sketch, show the various forces acting on a retaining wall. **10**

**PART – B**

3. a) Design a cantilever retaining wall to retain an earth embankment with a horizontal top 4 m above the ground level. Density of earth =  $18 \text{ kN/m}^3$ . Angle of repose =  $30^\circ$ , SBC of soil =  $200 \text{ kN/m}^2$ . Coefficient of friction between soil and concrete = 0.5. Adopt M 20 grade concrete and Fe 415 steel. **20**
- b) Draw the following views :
  - i) Cross section of retaining wall showing reinforcement details.
  - ii) Longitudinal section showing curtailment. **20**

**OR**

4. a) Design an open rectangular water tank of size  $3 \text{ m} \times 8 \text{ m} \times 3 \text{ m}$  deep resting on firm ground. Use M 25 grade concrete and Fe 415 steel. **20**
- b) Draw to suitable scale :
  - i) Sectional plan at base showing reinforcement details.
  - ii) Section (elevation) through short wall near corner. **20**

P.T.O.



5. a) Design a typical interior panel of a flat slab  $8\text{ m} \times 8\text{ m}$  for a LL of  $5\text{ kN/m}^2$ . Use M25 concrete and Fe 415 steel. Column is 800 mm in dia. Sketch the details of the reinforcement. **20**
- b) Draw to a suitable scale :
- i) Plan of slab.
  - ii) Cross section of slab in two directions. **20**

OR

6. a) Design a simple slab bridge to the following requirements :
- i) Clear span = 5.5 m.
  - ii) Clear width of carriage way = 6.8 m.
  - iii) Live load : IRC class A loading. Use M 20 grade concrete and Fe415. **20**
- b) Draw to a suitable scale :
- i) Plan of deck slab.
  - ii) Cross section of the slab in two directions. **20**
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