

**DIPLOMA IN CIVIL ENGINEERING  
DCLE(G) / DCLEVI**

**Term-End Examination**

**December, 2015**

**BCE-045 : CONSTRUCTION DRAWING**

*Time : 2 hours*

*Maximum Marks : 70*

---

**Note :** *Question no. 1 is compulsory. Attempt any five out of the remaining six questions.*

---

---

1. Draw the sectional drawing plan and elevation of a circular water tank on the drawing sheet with all specifications and dimensions as per engineering drawing norms with the following data :  $10+5+5=20$
- (a) Diameter of the tank = 4 m (including wall thickness)
  - (b) Depth of water = 3 m (Height of the tank including base slab 3.5 m)
  - (c) Tank rests on the ground
  - (d) The wall and base slab are not monolithic
  - (e) Wall thickness = 150 mm

- (f) Base slab thickness = 200 mm
- (g) Base slab dia = 4.6 m
- (h) Wall :
  - (i) Vertical reinforcement = 8 mm  $\phi$   
@ 110 mm c/c
  - (ii) Distribution steel = 8 mm  $\phi$  @ 170 mm c/c
- (i) Base slab :
  - (i) Circular reinforcement = 8 mm  $\phi$   
@ 200 mm c/c
  - (ii) Distribution steel = 8 mm  $\phi$  @ 200 mm c/c

2. Draw the drawing of a cantilever chajja projecting for a length of 1 meter beyond a 230 mm  $\times$  210 mm lintel. The drawing data is as given below :

10

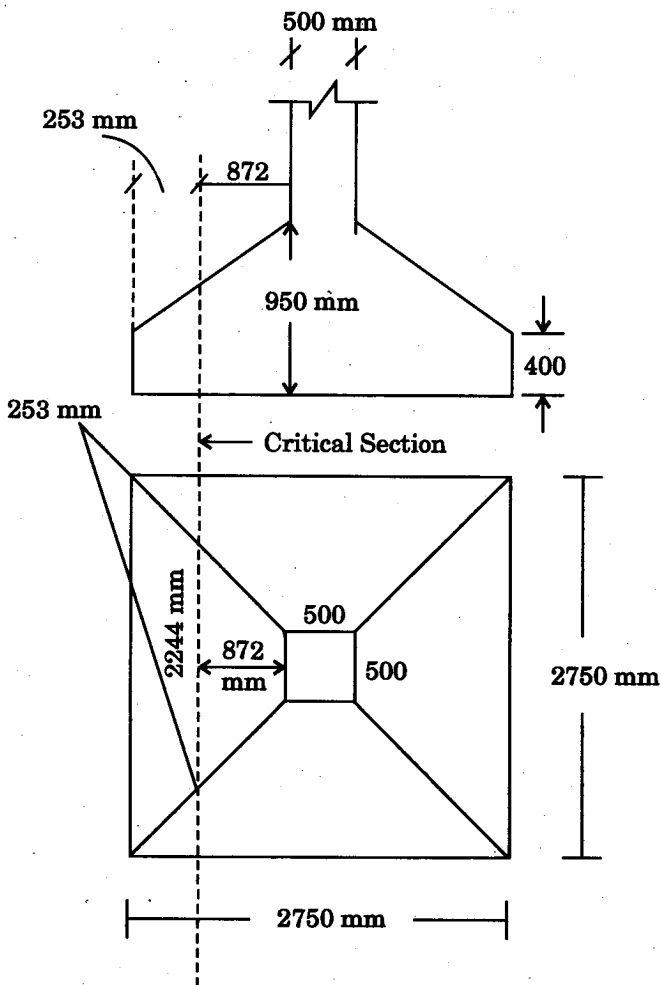
- (a) Lintel dimension = 230 mm depth  $\times$  210 mm width
- (b) Overall depth of chajja = 60 mm
- (c) End depth tapering down = 55 mm
- (d) Effective cover = 20 mm
- (e) Longitudinal reinforcement of chajja = 8 mm  $\phi$  @ 130 mm c/c having development length 550 mm (210 + 190 + 150) in addition to 980 mm chajja projection
- (f) Spacing bars = 8 mm  $\phi$  @ 130 mm c/c

3. Draw the sectional diagram of a column footing as per the data and sketch given below :

10

Steel :

- (a) Base slab = 17 bars of 12 mm  $\phi$  at equal spacing
- (b) Longitudinal bars = 8 bars of 16 mm  $\phi$  at equal spacing
- (c) Tie bars = 5 mm  $\phi$  @ 240 mm c/c



4. What are the two classifications of staircase ?  
Explain through neat sketches and labelling  
only. 5+5=10
5. Write abbreviations for the following : 5×2=10
- (a) Centre line
  - (b) Coursed rubble
  - (c) Cement pointing
  - (d) Centre to centre
  - (e) Flooring
6. Differentiate between Isometric drawing and  
Perspective drawing with neat sketches. 10
7. Draw the symbols for any **five** of the  
following : 5×2=10
- (a) Sink
  - (b) Two-way switch
  - (c) Revolving door
  - (d) Urinal stall
  - (e) Exhaust fan
  - (f) Ceiling fan
-