DIPLOMA IN CIVIL ENGINEERING
DCLE(G) / DCLEVI
Term-End Examination
00068   June, 2017

BCE-045 : CONSTRUCTION DRAWING

Time : 2 hours   *Maximum Marks : 70*

Note : *Part A is to be attempted on answer script and Part B on a drawing sheet. Use of calculator is allowed.*

PART A

*Attempt any **five** questions.*

1. Show the different formats of dimensioning on a drawing.   7

2. An outer 350 mm thick wall of a lightly loaded building is falling on a property line. The wall carries a load of 100 kN/m. Design the base concrete footing for the wall. Given bearing capacity of soil as 140 kN/m^2, angle of repose as 30° and unit weight of soil as 18 kN/m^3.   7

3. Why is a combined footing provided ? What is the use of the trapezoidal shape of it ?   7

4. Discuss the types of concrete masonry arches.   7

5. Explain tabled joint and framing joint.   7

6. Sketch a bifurcated staircase.   7

7. Enumerate the most commonly used types of roof trusses.   7

PART B

*Attempt question no. **8** which is **compulsory** and any **one** question from the remaining. Adopt a suitable scale.*

8. Draw the reinforcing details of a square footing provided for a column whose cross-section is square. The size of the footing is 2 m × 2 m. The steel is provided in both the directions with the following specification :

    12 mm ϕ @ 100 mm c/c

    The thickness of the footing is 600 mm.　　　　*15*

9. Draw the sectional view of a simple one-way slab flooring :　　　　*20*

    Effective span = 4 m

    Overall depth = 450 mm

    Main reinforcement = 12 mm ϕ @ 120 mm c/c

    Alternate bars are bent up at $l/7$ distance from the face of support.

    Distribution bars are 10 mm ϕ @ 200 mm c/c.

10. Design a masonry footing for 250 mm thick wall 2·5 m high above G.L, wind pressure = 300 N/m^2, bearing capacity of soil = 100 kN/m^2, unit weight of soil and masonry are 16 kN/m^3 and 19 kN/m^3 respectively, angle of repose of sand = 30°.　　　　*20*