No. of Printed Pages : 3 M00591 **BCE-045**

DIPLOMA IN CIVIL ENGINEERING DCLE(G) / DCLEVI

Term-End Examination,

December 2019

BCE-045 : CONSTRUCTION DRAWING

Time : 2 Hours] *[Maximum Marks : 70*

Note : *(i) Part "A" is to be attempt on answer sheet and part "B" on a drawing sheet.*

(ii) Use of calculator is allowed.

(iii) Assume suitable data, wherever necessary.

Part - A

Attempt **any five** questions.

1. Explain briefly standard abbreviations are used in drawings? Give abbreviations for the following terms : 7

   a) Typical

   b) Approved

   c) Checked

   d) Symmetrical

   e) Screw

   f) Ground level

   g) Thick

2. a) Show different types of lines and write their applications. 3

   b) Show the different formats of dimensioning on the drawing. 4

3. What do you understand by a False Ceiling? Write some advantages of their provision. 7

4. Design a foundation with cement concrete base footing for a column of size 400 × 400 mm and carrying a load of 200 kN. Safe bearing capacity of soil = 120 kN/m^2. Angle of repose for soil is 28° and unit weight of soil = 20 kN/m^2. 7

5. Mention various types of stair cases and explain any one by means of neat sketches in plan and elevation. 7

6. What are the methods of protection of reinforced concrete structures against sulphate and chloride attacks? Explain briefly. 7

7. Name the types of wooden lengthening joints used in common. Explain any one such type of joint by neat sketches. 7

Part - B

Attempt question No. 8 (which is **compulsory**). And **any one** question from the remaining ones in this part. Assume suitable scale and mention it.

8. Prepare the structural drawing for the foundation of a brick masonry external wall with cement concrete base. Design data is as under : 20
   - Thickness of wall = 230mm.
   - Width of the footing = 1.50m.
   - Depth of footing below G.L. = 1.20m.
   - Plinth level above G.L. = 0.50 m.

9. Draw the sectional plan and elevation of a window with the following specifications. Doubled leaf fully glazed wooden window of size 1.5 × 1.5m for a residential building. 15

10. Draw L-section and cross section of an RCC. Beam for the following data. 15
    - Size of beam 300 × 450mm.
    - Span - 3.0m Bearing on wall - 150mm.(each side)
    - Main reinforcement - 3Nos 12 mm ϕ bars.
    - Anchor bar - 2Nos 10mm ϕ bars.
    - Ring/stirrups - 6mm ϕ @ 200 c/c.