No. of Printed Pages : 3

BCE-045

DIPLOMA IN CIVIL ENGINEERING
DCLE(G) / DCLEVI
Term-End Examination
December, 2016

00022

BCE-045 : CONSTRUCTION DRAWING

Time : 2 hours *Maximum Marks : 70*

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

PART A

Attempt any five questions.

1. Explain the terms ultimate bearing capacity and allowable bearing capacity. 7

2. Define various technical terms used in an arch with neat sketch. 7

3. Discuss how the depth and width of a shallow foundation are designed. 7

4. Sketch a dog-legged staircase. Explain its architectural aspects. 7

5. What do you mean by abbreviation ? Discuss any seven. 7

6. Draw a neat sketch of a king post truss. Explain the various terms used. 7

7. Write the specifications of marble flooring. 7

PART B

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

8. Draw the sectional elevation of a strip footing for an external concrete wall of thickness 250 mm. The footing is provided at a depth of 2 m below ground level. Plinth level is 0·5 m above G.L. Design data is as follows : *15*

Width of footing = 2·5 m

Overall depth of footing = 500 mm

Depth of footing at edges = 200 mm

Steel in tension = 12 ϕ @ 120 mm c/c

Distribution steel = 10 ϕ @ 200 mm c/c

9. A doubly reinforced T-beam is designed for the effective span of 5 m. Draw the cross-section of the beam. The data is as follows : *20*

- Overall depth of beam = 500 mm
- Width of beam = 250 mm
- Depth of flange = 150 mm
- Tension reinforcement = 4 − 20 ϕ
- Compression reinforcement = 4 − 12 ϕ
- Shear reinforcement = 8 ϕ 2-legged stirrups @ 150 mm c/c

10. Draw the sectional plan and elevation of the window with the following specifications : *20*

Doubled leaf fully glazed wooden window for a hostel room of size $1{\cdot}20$ m $\times$ $1{\cdot}50$ m

---