

Diploma in Civil Engineering DCLE (G)

DCLEVI

Term-End Examination

December, 2013

BCE-045 : CONSTRUCTION DRAWING

Time : 2 hours

Maximum Marks : 70

Note : Part 'A' is to be attempted on answer scripts and Part 'B' on drawing sheet. Use of calculator is allowed. Assume suitable data wherever necessary.

PART - A

Note : Attempt *any five* questions from the following :

- 1: Define scale. What are the different categories of scale ? Mention at least one example of each case. 7
2. Draw a free hand sketch of PLAN and ELEVATION of a dog legged Stair Case. 7
3. Why Standard Abbreviations are used in drawing ? Give Abbreviations for the following terms : 7
 - (a) Etcetre
 - (b) Constant
 - (c) Centre to centre
 - (d) Cylindrical
 - (e) Ventilator

4. What do you understand by a 'false ceiling' ? 7
Under what conditions is it used ?
5. Design a foundation with a cement concrete base 7
footing for a stone column of size 400×400 mm
and carrying a load of 250 kN. Safe bearing
capacity of soil = 125 kN/m^2 Angle of repose for
soil - 30° and unit weight of soil = 20 kN/m^3 .
6. What do you understand by a shell roof ? Show 7
by means of neat sketches the arrangement of
main reinforcement in shell roofs.
7. (a) What are the advantages in construction of 3
an arch in place of Lintel.
- (b) Define following terms : 4
- (i) VOUSOIRS (ii) EXTRADOS
- (iii) PIERS (iv) SPANDRIL
8. Describe some qualities of a good drawing. 7
Describe any one drawing required for
construction work.

PART-B

Note : Attempt Question No. 9 which is compulsory
and *any one* question from the remaining portion.
Adopt a suitable scale.

9. Draw PLAN and sectional elevation of a square 20
RCC footing of size 2.75 m, for a RCC column of
size 400×400 mm provided at a depth of 1.20 m
below the ground level with following details.

- Longitudinal bars of column -
8 - 20 ϕ HYSD.
- Lateral ties - 6 ϕ @ 300 c/c
- Overall depth of footing - 400 mm
- Depth of footing at edge - 150 mm
- Reinforcement of footing - 12 ϕ HYSD @120 c/c both ways.

10. A single leaf doubled panelled door of size 1.20 \times 2.10 m with plywood panel inserts of 12 mm thickness is provided in a room of a residential building 15
- (a) Draw Elevation of Door
- (b) Draw Plan of the Door.

11. Draw the sectional elevation of a strip footing for an external wall 345 mm thick provided at a depth of 1.20m below GL. Plinth is 50 cm above GL. Datas are given as under : 15
- Width of footing - 1.60 m
 - Depth of footing - 240 mm
 - Tensile Reinforcement 12 ϕ HYSD @ 90 c/c
 - Distribution Reinforcement 8 ϕ HYSD @ 300 c/c.
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