BCE-045

DIPLOMA IN CIVIL ENGINEERING
DCLE(G) / DCLEVI

Term-End Examination

OO793

June, 2018

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. Assume suitable data wherever necessary.*

PART A

Attempt any five questions.

1. Describe as to how a good drawing can be prepared.   7

2. Give the symbols for any *seven* of the following :   7
    (i)   Concrete
    (ii)   Earth
    (iii) Brick work
    (iv)   Metal section
    (v)   W.C.
    (vi)   Urinal
    (vii) Two way switch
    (viii) Bracket fan
    (ix)   Sand
    (x)   Shower head

3. Mention various types of staircase and explain any one type by means of neat sketches in plan and elevation. 7

4. Define Lap Joint and draw plan of a Lap Joint with steel strap and bolt. 7

5. Define an Arch. What are the advantages in constructing an arch in place of a lintel or a beam ? 7

6. Write full forms of any *seven* of the following abbreviations : 7

   (i) STD

   (ii) GL

   (iii) APPD

   (iv) C/C

   (v) SYM

   (vi) SCR

   (vii) THK

   (viii) GCI

   (ix) CHKD

   (x) TYP

7. What are various types of wooden trusses ? Explain any one with the help of neat sketches. 7

PART B

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

8. A simply supported RCC beam has the following data : 15

   Size of beam = 300 × 500 mm

   Clear span = 5·00 Metre

   Bearing on wall = 300 mm

   Wall thickness = 300 mm

   Main Reinforcement = 3 Nos 20 mm ϕ – HYSD bar, one of which bent up at L/7.

   Vertical Stirrups = 8 mm ϕ 2 legged @ 200 mm c/c

   Anchor bars = 2 Nos – 12 mm ϕ

   Draw the sectional **plan** and sectional **elevation** for the above RCC beam.

9. Draw sectional **plan** and sectional **elevation** of a square column with an isolated footing from the following data : 10+10=20

   Size of column = 300 × 300 mm

   Depth below GL = 1·0 Metre

   Plinth level = 300 mm above GL

   Height of column = 3·0 metre

   Column Reinforcement

   Main bar = 4 Nos, 20 mm ϕ

   Lateral Ties = 8 mm ϕ @ 300 c/c

   Footing details

   Size = 3·0 × 3·0 Metre

   Thickness at column face = 600 mm

   Thickness at end = 300 mm

   Base Reinforcement = 12 mm ϕ @ 200 c/c both ways.

10. Draw sectional **plan** and sectional **elevation** of a cantilever R.C.C. slab having an overhang of 1·75 m from the following data : *10+10=20*

Main Reinforcement = 10 mm ϕ HYSD bars @ 150 mm c/c

Distribution bar = 8 mm ϕ HYSD bars @ 150 c/c

Thickness of slab at free end = 100 mm

Thickness of slab of fixed end = 150 mm

Wall thickness = 300 mm

Wall bearing = 300 mm

Width of slab = 2500 mm

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