

**CIVIL ENGINEERING DRAWING**

Time Allowed: 4 Hours

Full Marks: 70

**Group-A**

Answer all questions.

2. A residential building has the following accommodation:
- Bed room size 3.5M x 4.5M (internal).
  - Middle room of size 3.5M x 3.5M.
  - Front verandah 2M wide connected to bedroom.
  - Drawing room 3.5M x 5M.
  - Bath room 1.5M x 2M.
  - W.C 1.2M x 1M.
  - Store room 2M X 3M width.
  - kitchen 3M x 4M

Draw to a suitable scale the plan of the building at window sill level, front elevation and one no sectional elevation. (Any Missing data is to be assumed) 18

3. Draw the section of the building over the section line shown in the figure above assuming the building to be single storey with floor to floor height 3300 and parapet height 900. Staircase rise and tread 150 and 200 respectively with plinth height 600 between G.L and P.L. Foundations are stepped footing with concrete base of 500 x 200 with two stepped brickwork of 400 x 200 and 300 x 200 respectively. All dimensions are in mm. Assume all reasonable data which are not supplied. Take a scale of 1:50. 18
4. Draw the complete floor plan using the line diagram of a building ground floor assuming main wall thickness as 300 and partition and veranda walls as 200. Also place doors and windows at suitable positions with door size 1200 x 2100 and window size 1000 x 1200 except toilet ventilations which are of size 600 x 900. All dimensions are in mm. Assume all reasonable data which are not supplied. Take a scale of 1:50. <https://www.wbsctonline.com> 18

**Group-B**

5. Draw the plan, elevation Concrete block 1.2M X 1m x 70CM depth; column size = ISHB 350 @ 72.4kg/m  $f_w = 250$ ; Base plate = 650 x 500 x 35; clear ISA 130 x 130 x 8, having length 500; use 20mm dia, 8 rivets, 2 rows of 4 reverts and 20mm dia 25 cm long anchor bolts web cleats ISA 75 x 75 x 8 – 2 nos. all the dimension in mm. 17
6. Draw to a suitable scale of a front view of a wooden king post type roof truss of 8000mm clear span and 2000mm rise at the centre. The following particulars are given.
- Principal rafter – 150 x 180
  - Tie beam – 150 x 200
  - King post – 150 x 180
  - Strut – 100 x 100
  - Purlins – 100 x 180
  - Roofing – CGI sheeting.
- The truss is supported on cement block (1:4) 400 wide, dimensions are in mm, assume any missing data. 17
7. Draw to a suitable scale the elevation of steel roof truss for a workshop building, having clear span of 10M. The truss rests on RCC columns at 4M interval. The roof is covered with corrugated AC sheets over steel purlins. Show with an enlarged scale, the details of joint at support, joint at bridge fixity of sheet on the purlin. (Assume any missing data) 17