

557**October 2017**

Time – Three hours
(Maximum Marks: 75)

- [N.B: (1) Answer all questions under PART – A and PART – B in the drawing sheet supplied.
 (2) The sketches under PART – A should be drawn using pencil and drawing instruments, not necessarily to scale.
 (3) Any data, not given may be assumed suitably and should be indicated in the drawing. All dimensions indicated are in mm.]

PART – A
 (15 marks)

- | | Marks |
|---|-----------|
| I Answer the following: | 2 x 3 = 6 |
| (i) What are all the objectives of bye law? | |
| (ii) Write notes on general requirements of public buildings. | |
| II Draw the sectional plan and elevation of partly panelled and 1 x 9 = 9 partly glazed window to the following specifications. | |
| Number of leafs=2; Size of window=1500 x 1200 mm; | |
| Size of door frames= 100 x 80 mm; | |
| Size of shutter frames= 75 x 40 mm; Panel thickness=25mm | |

PART – B
 (60 marks)

- III The sketch shows the line plan of a house with RCC roof. The dimensions noted therein indicate the clear dimensions between the walls inside. Draw to a suitable scale the following view.
- | | |
|----------------------------------|----|
| (i) Plan of the building | 20 |
| (ii) Sectional elevation on ABCD | 25 |
| (iii) Front elevation | 15 |

1. **Foundation:**

The foundation for all main walls will be cement concrete 1:4:8 mixes, 750 wide and 150 thick laid at 1050 below ground level. The first masonry footing will be in random rubble masonry in cement mortar 1:5, the size being 450 x 450 for all main walls.

The foundation for veranda walls will be cement concrete 1:4:8 mixes, 600 wide and 150 thick laid at 600 below ground level. The first masonry footing will be in random rubble masonry in cement mortar 1:5, the size being 450 x 450.

2. **Basement:**

The basement will be in random rubble masonry cement mortar 1:6, 450 wide and 600 high above ground level for all main walls and is filled with clean sand to a depth of 450. A damp roof course in cement mortar 1:3, 20 thick will be provided for all walls at basement level.

3. **Super Structures:**

All walls will be in brick work in cement mortar 1:5, using first class bricks, 200 thick. The height of main walls will be 3000 above floor level.

The partition walls inbetween bath and toilet will be 100 thick in brickwork in cement mortar 1:5 using country bricks. All the walls including basement will be plastered smooth with cement mortar 1:4 externally and 1:6 internally for 12.5 thick. Parapet walls 200 thick and 750 height will be provided all-round.

4. Roofing:

The roofing will be of RCC 1:1.5:3 mix, 100 thick flat slabs over the rooms and sit-out. A weathering course, 75 thick consists of two course of flat tiles set in the cement mortar 1:3 mixed with crude oil will be provided over the slab.

5. Joineries: (Doors, windows & ventilators etc.)

d1 - Panelled door=1000 x 2100; d2 - Panelled door = 900 x 2100

O - Opening = 900 x 2100; W1 - Panelled window=1500 x 1400

W2 - Panelled window=1200 x 1400;

W3 - Panelled window=1400 x 1400; V - Ventilator glazed= 600 x 450

6. Lintel:

All internal wall openings will be provided with RCC lintel, 1:1.5:3 mix; 150 thick and all external wall openings will be provided with RCC lintel-cum sunshade, 1:1.5:3 mix, projection being 450 wide and 80 thick at support and 50 thick at free end.

7. Flooring:

The flooring will be in cement concrete 1:4:8, 100 thick and finished with vitrified tiles of 20 thick over cement mortar 1:3 bed of 30 thick for all the portions.

8. Steps:

Steps will be in brickwork in cement mortar 1:5 laid on 800 x 150 cement concrete 1:4:8 footing. Rise 150 and tread 300.

