

NOTE:.

[REVISED COURSE]

(4 Hours)

[Total marks: 80]

- Question No. 1 is compulsory.
- Attempt any three out of the remaining five questions.
- Figure to the right indicates full marks.
- Assume any suitable data and clearly state the same.

Q.1 A). Draw detailed plan to a scale 1 : 50 of a residential building as per the following requirements; 14

1). The structure is <b>RCC frame structure</b>	a). Bed room 4.0 m x 3.0 m
2). All walls are <b>230 mm thick.</b>	b). Hall 4.0 m x 4.5 m
3). The building has got <b>ground floor only.</b>	c). Kitchen 3.0 m x 2.5
4). Access to the terrace is provided through staircase.	d). Children's room 3.0 m x 3.0 m
5). Assume suitable sizes of doors and windows..	Provide Verandahs and other units as per building bye laws
6). Locate doors and windows at suitable positions.	
7). Column sizes 0.23 x 0.23 m	
8). Beam sizes 0.23 m x 0.45 m	
9). Floor to floor height = 3.0 m	
10). Plinth height = 0.45 m	
11). Parapet height = 1.0 m	
12). Slab offset is of 150 mm	
13). RCC slab (M20) 150 mm thick.	
14). Assume other suitable data if required, as per norms	

B). Enlist the principles to be considered in planning a building. How did you apply the principle 'Aspect' in Q. 1 A? 06

Q.2 A). Draw the elevation of building with dimensions, elegance and labeling, as planned in question number 01. 08

B). Write a detailed note on RCC framed structure in respect of components, load transfer, merits, demerits and suitability. 06

C). Draw well labeled plan, elevation and section of solid core flush door for opening of size 0.9 x 2.0 m. Give dimension of frame members and thickness of shutter. State all fixtures and fastening used for the flush door. 06

Q.3 A). Draw the foundation plan to a scale 1 : 50 with dimensions for the building drawn in Q no. 01. Also draw the section of one footing. 08

B) What are the objects of development control rules (DCR)? State DCR for 'Open spaces for building'. 06

C). Define Carpet area, Built Up area and FSI. Calculate Carpet area, Built Up area for question number 01. 06

Q.4 A). Draw the cross section passing through staircase, bath, WC of building drawn in Q. no.01. Drawing should indicate the labeled components of building. 14

B). State the requirements of good stair with respect to; a) Pitch, b) head room, c) location, d) rise and treads, e) Number of steps in a flight, f) width of stair. 06

Q.5 A). Suggest the type of pitched roof for a factory of internal size 7 m x 21 m. Show the location of truss on plan and draw the section of the truss showing all details. 14

B). Draw the well labeled and dimensioned terrace plan for building drawn in Q. no. 01. 06

Q.6 Write short notes on the followings (any four)

i). Bay window, ii). Wind rose (circulation) diagram. iii). Roominess, iv). Sun shading devices, v). DCR for Height of building 20