

1. **Q.No. 1** is compulsory
2. Attempt any **Three questions** from remaining **Five** questions.
3. Assume any data suitably if not given and state it clearly.

1. It is proposed to construct a **RESIDENTIAL BANGALOW** in the suburban area of Thane District for an executive engineer of P.W.D.. The building is (G+1) R.C.C. framed structure, The plot size is 30 mx28 m. Following are the requirements:

(i)	Entrance Lobby	: min 3 mt wide
(ii)	Engineer's Office	: 25-30 sq mt
(iii)	Living Room	: 20-25 sq mt
(iv)	Study Room	: 12-15 sq mt
(v)	Master Bedroom	: 20-25 sq mt
(vi)	Bedroom (2 Nos)	:10-12 sq mt
(vii)	Kitchen cum Dining Room	: 20-25 sq mt
(viii)	Children room	: 10-12 sq mt.
(ix)	Stores	: 10-12 sq.mt.

Provide passages, staircase , sanitary unit, parking area etc. as per byelaws. Place the units are per their requirements on Ground and First Floor.

- (a) Draw Ground floor plan. **(15)**
- (b) Draw first floor line plan. **(05)**
2. (a) Explain Principles of planning with neat sketches. **(10)**
- (b) Draw the foundation plan for the building given in Q.No.1 **(10)**
3. (a) Draw the detailed sectional elevation passing through staircase and other important units of building given in Q.No.1. **(15)**
- (b) Explain Working drawing and submission drawing **(05)**
4. (a) Differentiate among Load Bearing, Framed and Composite structure with neat sketches and examples. **(06)**
- (b) Draw the plan and section of pitched roof on hall measuring 8m x 8m. **(08)**
- (c) Explain Sun Path diagram with its application in building planning **(06)**
5. (a) Draw the front elevation of the building given in Q.No.1. **(10)**
- (b) Draw the site plan showing proposed built-up area, internal road, parking area, open space etc of the building given in Q.No.1. **(10)**
6. (a) Draw the plan and section of open well staircase for an educational building (G+1) having floor to floor height 3.6 mts. Also show design calculations. **(10)**
- (b) What are various objects of building bye-laws. Explain Carpet area. **(05)**
- (c) Draw roof terrace plan of the building given in Q.No.1 **(05)**