

12

Q.P. Code : 18499

(Time:4 Hours)

(Max. Marks:80)

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 as 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)