

(3 Hours)

Max Marks: 80

- Note:** 1. Question No. 1 is compulsory.
2. Attempt any 3 out of five questions.
3. Assume any data suitably, if required.

Q.1 It is proposed to construct a Hospital Building in the suburb of Mumbai District. The building is G+1, R.C.C. framed structure on the plot size measuring 52 mt x 48 mt.

Following are the requirements:

- (i) Entrance Lobby : min 4 mt wide
- (ii) Hospital Admin Office : 25 sq mt
- (iii) Doctor's Consulting Room 3 Nos (10 sq mt each)
- (iv) Pathology Lab : 30 sq mt
- (v) Radiology Lab : 30 sq. mt
- (vi) Drug / Medicine Store: 20 sq. mt.
- (vii) Operation Theatre : 30 sq. mt
- (viii) Male Ward (6 Beds) : 50 sq. mt
- (ix) Female Ward (6 Beds) : 50 sq.mt
- (x) ICU (3 Beds) : 30 sq.mt.
- (xi) Doctor's rest room : 20 sq.mt
- (xii) Canteen : 50 sq. mt
- (xiii) Kitchen : 20 sq. mt

Provide Sanitary Units, Circulation spaces, lift, staircase, parking etc as per bye laws.

Place the various requirements on Ground Floor and First Floor according to their function.

- (i). Ground Floor Plan (Developed Plan) **15**
- (ii). First Floor Plan (Line Plan) **05**

Q.2 a Draw sectional elevation passing through staircase and other important units of the building which you have planned in Q.No.1 **15**

b Explain briefly Architectural composition. **05**

Q.3 a Draw Front Elevation for the building which you have planned in Q.No.1 **10**

b Explain Principle of Planning with neat sketches. **10**

Q.4 a Draw Two Point Perspective of the Hall measuring 8000 mm x 10000 mm having flat roof. Take Plinth Height 600 mm. Floor to Floor Height 3600. Parapet Height 1000 mm. Provide Two Window (2000 x 1500) and One Door (1500 x 2100) on front wall. Assume any dimension suitably, if required **15**

b What are various types of Footing. **05**

Q.5 Design a dog-legged staircase for an educational building having floor to floor height 3600 mm. Take height of Riser: 150 mm, Width of Tread: 300 mm. **15**

Draw Plan and Section

b Explain Use of Sun Path diagram in Planning of the Building. **05**

Q.6 Write Short notes on any four: **20**

- (a) Green Building
 - (b) Types of Structures
 - (c) Types of Doors
 - (d) Application of software in Architecture & Civil Engineering
 - (e) Objectives of Town Planning
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