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**[4957]-1007**

**S.E. (CIVIL) (Second Semester) EXAMINATION, 2016**  
**ARCHITECTURAL PLANNING AND DESIGN OF BUILDINGS**  
**(2012 PATTERN)**

**Time : 2 Hours**

**Maximum Marks : 50**

- N.B. :—** (i) Solve Q.No. 1 or Q.No. 2, Q.No. 3 or Q.No. 4 in the answer-book.  
(ii) Solve Q.No. 5 or Q.No. 6 Q.No. 7. or Q.No. 8 on the drawing sheet only.  
(iii) Assume suitable data if necessary.  
(iv) Figures to the right indicate full marks.

1. (a) Elaborate the need of DP and explain what is the relation of DP with quality of life. 7  
(b) Write short notes on :  
(i) Evacuation time  
(ii) Travel distance. [6]

*Or*

2. (a) Write a note on 7/12 abstract, its importance and meaning of every term on it. [6]  
(b) Write short notes on :  
(i) Salient features of a “Green building”. [3]  
(ii) Earthquake loads and suggested techniques to resist the same. [4]

P.T.O.

3. (a) Write short notes on : [6]

(i) Sound foci and Dead spots

(ii) Need of Artificial lighting

(b) Elaborate two-pipe system. [6]

Or

4. (a) Write a note on Mechanical ventilation system (sketch is expected.) [6]

(b) What is F.A.R. ? Which areas are excluded from total area while calculating F.A.R. ? [6]

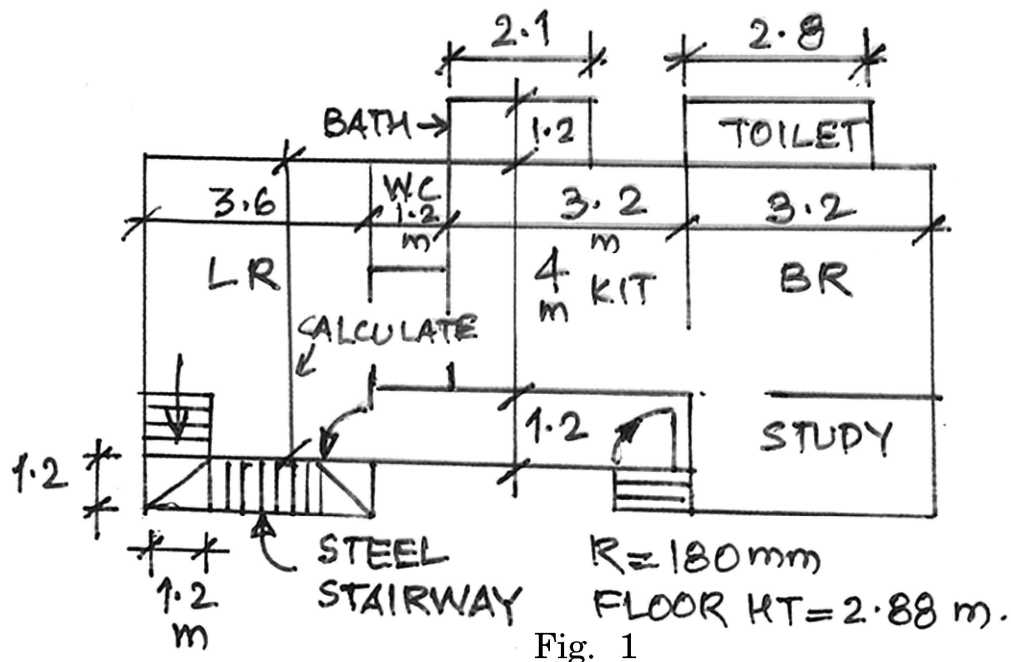
5. Draw to a scale of 1 : 50 or otherwise, detailed plan with the following details. [13]

(i) Structure type — R.C.C., (Ground Floor)

(ii) Wall thickness — 230 mm external, 100 mm internal

(iii) Column dimensions — 230 mm × 380 mm

Plan—10 marks, Schedule of openings—3 marks. [Refer figure 1]



Or

6. Draw to a scale of 1 : 50 or otherwise a detailed plan of a bungalow with the following details : [13]

- (i) Living room – 18 m<sup>2</sup>
- (ii) Kitchen – 12 m<sup>2</sup>
- (iii) Master BR – 18m<sup>2</sup> (inclusive of internal toilet)
- (iv) Bedroom – 12 m<sup>2</sup>
- (v) W.C. – 1 × 1.2 m<sup>2</sup>
- (vi) Bath – 1.2 × 2.1 m<sup>2</sup>
- (vii) Passage – 1.2 m wide
- (viii) Floor height – 3.2 m
- (ix) Rise – 0.16 m, Tread – 0.275 m.

7. Using the following data; design a primary Health centre. (Assumed data; if any; is to be clearly mentioned).

- (i) Entrance and (reception + waiting) — 3m × 5m
- (ii) Doctors room (2No.) – 3 × 3.6 m<sup>2</sup>
- (iii) Examination/Dressing — 3 × 4 m<sup>2</sup>
- (iv) Operative area for Minor Surgery — 4 × 4.5 m<sup>2</sup>
- (v) Ward — (2 in no., for 8 patients) — 8 m<sup>2</sup>/patient
- (vi) Drug store— 3 × 4 m<sup>2</sup>

- (vii) Admin/office—  $3 \times 4 \text{ m}^2$
- (viii) Resident doctor quarter—  $90 \text{ m}^2/\text{Family}$
- (ix) Servents quarter—  $500 \text{ m}^2/\text{family}$
- (x) Staircase, corridors sanitation block—suitable provisions. [12]

*Or*

8. Design a hostel (two-seated) to accommodate **50** students, with the following details :

- (i) Room size —  $7.5 \text{ m}^2/\text{person}$
- (ii) Kitchen— $9.5 \text{ m}^2$  —minimum
- (iii) Dining— $3-4 \text{ m}^2/\text{person}$ .
- (iv) Recreation hall— $3 \text{ m}^2/\text{person}$
- (v) Store—  $6\text{m}^2$  —minimum
- (vi) Pantry—  $6\text{m}^2$  —minimum
- (vii) Passage—  $1.8 \text{ m}$  wide
- (viii) Staircase and sanitary block—Suitable provisions. [12]