

Total No. of Questions—8]

[Total No. of Printed Pages—3

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**[5152]-107**

**S.E. (Civil) (Second Semester) EXAMINATION, 2017**  
**ARCHITECTURAL PLANNING AND DESIGN OF BUILDINGS**  
**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

- N.B. :—** (i) Solve Q. No. 1 or Q. No. 2 and Q. No. 3 or Q. No. 4 on answer sheet.  
(ii) Solve Q. No. 5 or Q. No. 6 and Q. No. 7 or Q. No. 8 on drawing sheet only.  
(iii) Assume suitable data if necessary.

1. (a) Write a note on : [6]  
(i) Profit and non profit zones  
(ii) Density zones.  
(b) Enlist different principles of architectural planning and elaborate any two with sketches. [7]

*Or*

2. (a) Write short notes on TDR. [6]  
(b) Explain the importance of earthquake resistant structures in today's context. [7]

3. (a) The internal dimensions of a tile manufacturing unit are 40×20×5m. The number of air changes available are 5. The indoor temperature is 35°C and outdoor is 30°C. Find the area of openings if the distance between inlet and outlet openings is 2.5m. [6]  
(b) Write a short note on solar energy and its applicability and importance. [6]

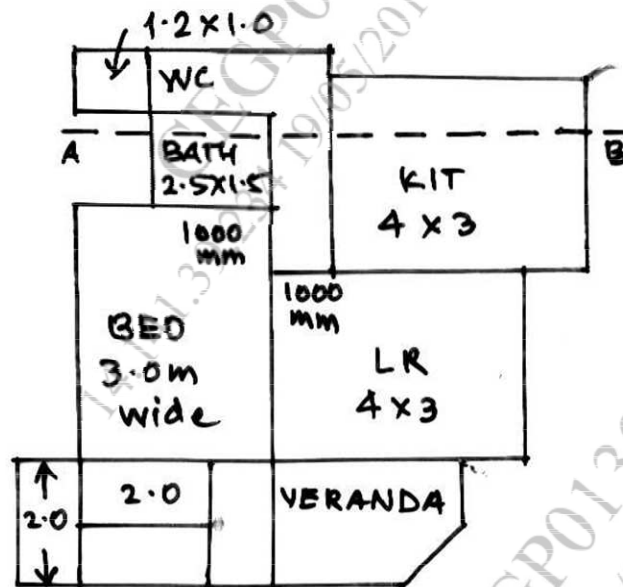
P.T.O.

Or

4. (a) Explain with sketch, "Layout of water supply." [6]  
(b) Explain with sketch : [6]  
(i) Centre of vision  
(ii) VPL.
5. Draw a detailed floor plan to a scale of 1 : 50 or otherwise using following data : [13]  
(i) LR -  $15\text{m}^2$  (1 in No.)  
(ii) Kitchen + Dining -  $9\text{m}^2$   
(iii) M.B.R. -  $15\text{m}^2$  + Toilet  $3\text{m}^2$   
(iv) B.R. -  $15\text{m}^2$   
(v) WC -  $1.2 \times 1\text{m}^2$   
(vi) Bath -  $1.2 \times 2.1\text{m}^2$   
Ext. Walls-230 mm int walls-115mm.  
Staircase—Assume height = 3m, R = 0.15, T = 0.25m.

Or

6. Draw a sectional elevation by referring Fig. 1 : [13]



FL TO FL HT = 2.88m

Riser HT = 0.16 T = 0.25m

Plinth HT = 0.48 m

Fig. 1.

7. Design a single storey hostel building for 50 Students : [12]
- (i) 20 Rooms, Two seated with  $7.5\text{m}^2/\text{Student}$  and 10 single seated rooms with  $9\text{m}^2$  area.
  - (ii) Recreation room –  $35\text{m}^2$
  - (iii) Gymnasium –  $15\text{m}^2$
  - (iv) Office area –  $20\text{m}^2$ , assume additional suitable data. [Line plan is expected with N-line and schedule of openings.]

*Or*

8. Draw a line plan with N-line & Schedule of openings using following data : [12]
- (1) Post Office – entrance & moving area –  $30\text{m}^2$
  - (2) Counters – 4 No,  $0.7\text{m}$  wide
  - (3) Post Master's room –  $15\text{m}^2$
  - (4) Post separation room –  $30\text{m}^2$ .
  - (5) Safe custody –  $10\text{m}^2$
  - (6) Cash transaction –  $15\text{m}^2$
  - (7) Assume additional suitable data.