Total No. of Questions : 8] **SEAT No. :**

P9081 **[Total No. of Pages : 4**

[6179]-206

S.E. (Civil Engineering)

BUILDING TECHNOLOGY & ARCHITECTURAL PLANNING

(2019 Pattern) (Semester-III) (201001)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Assume suitable data if necessary.***
5) ***Use of scientific calculator is allowed.***

Q1) a) Define flooring. Enlist different types of flooring. Explain marble flooring. **[6]**

b) Enlist different types of roofs. Give the functional requirements of good roofing materials. Draw the sketch of queen post roof truss. **[6]**

c) Explain briefly the following aspects applied to doors and windows. **[5]**

i) Function or purpose

ii) Location

iii) Size

OR

Q2) a) What is the factor affecting the selection of flooring materials? **[6]**

b) Explain with proper sketch Casement window. **[6]**

c) Enlist types of doors and explain in detail Sliding door. **[5]**

Q3) a) It is proposed to construct a bungalow for a doctor, the following are the requirements for accommodation: **[13]**

i) A Drawing Hall-25 Sqm.

ii) Living Room- 25 Sqm.

iii) Kitchen cum dining room - 15 Sqm.

iv) Guest Room -20 Sqm.

v) Children's Room -20 Sqm.

vi) Master bedroom -20 Sqm.

vii) Doctors Room - 20 Sqm.

viii) Provide adequate verandah, passage, sanitary units, staircase etc. as per bye- laws. Consider floor to floor height 3.0M, Size of Riser 150mm. The structure planned as G+1 RCC structure and draw line plan for the same.

b) Calculate number of risers and tread in each flight for dog legged stair, floor to floor height is 3.3 m and riser is 150mm. Show with a neat sketch. **[5]**

OR

Q4) a) Write a Short note on Green Building? Enlist various Rating System.**[5]**

b) A line plan of a residential building is shown in following figure 1. Draw detailed floor plan with 1:50 or suitable scale. Use the following data:**[13]**

i) All external wall thickness 230mm
ii) All internal wall thickness 150mm
iii) RCC Frame structure
iv) Floor to floor height -3.2
v) Plinth Height -0.6
vi) Toilet for M.Bed -1 .2 × 2. 1
vii) All dimensions are in meters

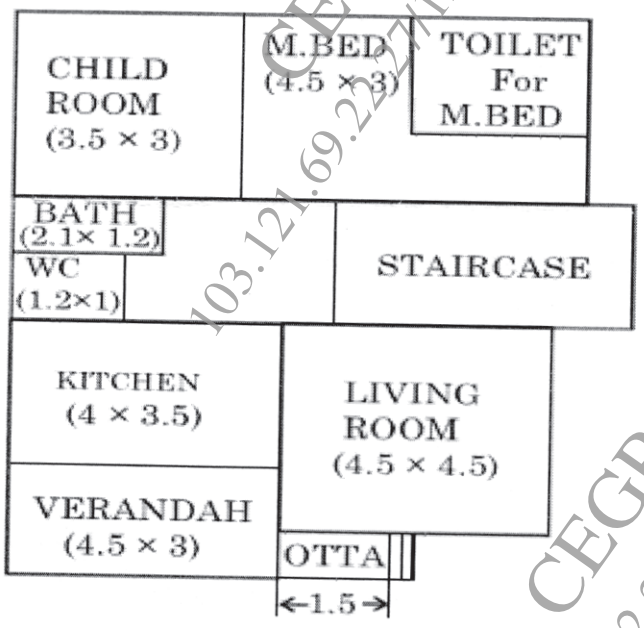

Fig.1

Q5) a) It is proposed to constrcut a Computer Training Institute with the following requirements: **[13]**

i) Reception: 20 Sqm.
ii) Administrative office: 25 Sqm
iii) Cabin for head of the institute : 25 Sqm
iv) Seminar Hall (2Nos) : 60 sqm each
v) Class room (3 Nos) : 50 Sqm each
vi) Computer lab(2 Nos): 70 Sqm each
vii) Store Room: 15 Sqm
viii) Staff room with attached toilet : 30 Sqm
ix) All passage : 2 m wide
x) Sanitary units : as per standards
xi) Assume any suitable data if necessary
xii) Draw to scale of 1:50 or suitable - line plan showing location of doors and windows

b) Enlist the functional requirements and salient features of engineering Student for hostel building. **[5]**

OR

Q6) a) Design a single storey hostel building and draw only line plan with the following data **[13]**

i) Number of students - 40
ii) Fifteen rooms are two seated with 7.5 sq. m area per student and ten single seated with 9.5 sq. m area.
iii) Recreation room approx. area 35 Sqm
iv) Kitchen-9.5 Sqm
v) Office space approx. area 12 Sqm
vi) Store room approx. area 10 Sqm
vii) Dining - 3 Sqm / student
viii) Passage -l.8m wide
ix) Verandah, passage, staircase, W.C. and Bath etc. of suitable size should be provided. Show North direction and mention scale.

b) Mention the functional requirements with dimensions for a School building. **[5]**

Q7) a) Explain in detail MRTP 1966 and RER.A **[6]**

b) What are different acoustical defects? Explain any one in detail. **[6]**

c) Explain in detail 7/12 abstract and describe different village forms. **[5]**

OR

Q8) a) Elaborate the following terms: **[6]**

i) Fire load

ii) Disaster Management

iii) Evacuation Time

b) Explain 'One Pipe' plumbing system **[6]**

c) Explain need of earthquake resistance structure **[5]**