

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]
- All external wall thickness 230mm
 - All internal wall thickness 150mm
 - RCC Frame structure
 - Floor to floor height -3.2
 - Plinth Height -0.6
 - Toilet for M.Bed -1 .2 × 2.1
 - All dimensions are in meters



Fig.1

Q5) a) It is proposed to construct 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 -1.8m 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 MRTTP 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]

