40X3+34+2

SE Civil IV CBSGS 01.6.17

166

Q.P. Code : 539204

(Revised Course)

(4 Hours) [Total Marks : 80

N.B. : (1) Question No.1 is compulsory.
(2) Attempt any three out of remaining five questions.
(3) Figures to the right indicate full marks.
(4) Assume suitable data and clearly state the same.

1. It is proposed to plan, design and draw a residential bungalow for a family in western suburbs (G + 1, RCC framed structure) with the following facilities:
   (i) Living Room (16 to 18 sqm)
   (ii) Master Bedroom (16 to 20 sqm)
   (iii) Kitchen (6 to 8 sqm)
   (iv) Dining Room (12 to 14 sqm)
   (v) Bed Rooms two nos. (15 to 16 sqm)
   (vi) Guest Room (15 to 16 sqm)
   (v) Garage (15 to 16 sqm)

   Provide verandah, staircase, passage and sanitary units etc as per bye laws. Assume floor to floor height = 3.3m. Plot size 20m x 30m.
   (1) Draw the developed Ground Floor plan clearly indicating the opening for doors, windows etc. 15
   (2) Draw the line plan of 1st floor. 5

2. (a) Draw the cross section passing through staircase, bath & WC with sunk slab, door and windows etc of building drawn in Q. No.1. 15
   (b) Calculate carpet area and built up in a tabular form of building drawn in Q. No.1. 5

3. (a) Draw the well labelled and well dimensioned foundation plan for the building drawn in Q. No.1 along with diagonal check. 10
   (b) What is pitch roof? State the conditions when king post and queen post truss are used. Suggest the type of pitch roof truss for a factory of clear size 6 m x 18 m. Draw the plan showing the location of roof truss with centre to centre distance and section of the same with complete details. 10

TURN OVER

SE Civil IV CBSGS 01.6.17

(166)

Q.P. Code : 539204

4. (a) Draw various types of lines used in civil engineering drawing. Explain what each stands for. 5
   (b) How are building classified as per NBC 2005? In which category does the building of Q.No.1 fall into? 5
   (c) Draw the site plan and location plan for building drawn in Q. No.1. 10

5. (a) Explain with the help of sketches, suitability, merits and demerits of Load bearing structure, framed structure and composite structure. 7
   (b) What are the various types of door? Suggest the type of main door to be provided in building of Q. No.1 with justification. Draw the plan, elevation and section of that door. 7
   (c) What is wind rose diagram? What are the data required to draw a wind rose diagram? Explain in brief. 6

6. Answer the following questions (**any four**) : 20
   (1) State the minimum dimensions provided for various components of a staircase.
   (2) What are the minimum areas for different rooms in a residential building as per bye laws?
   (3) What is the importance of planning principle 'aspect' and 'prospect' in building planning?
   (4) Write a note on set back distance and its importance.
   (5) State the importance of schedule of opening and area statement in civil engineering drawing.
