

B.E. Fifth Semester (Civil Engineering) (CGS)  
10192 : Building Planning and CAD : 5 CE 03

P. Pages : 4


Time : Four Hours




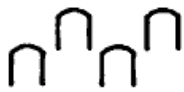


AU - 2640  
Max. Marks : 80

- Notes :
1. Answer two question from Section A and two question from Section B.
  2. Due credit will be given to neatness and adequate dimensions.
  3. Assume suitable data wherever necessary.
  4. Illustrate your answer necessary with the help of neat sketches.
  5. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) What do you understand by chain and parallel dimensioning. 3  
b) State the symbols for 2  
i) Stair ii) Railway over road  
iii) Towel rail iv)  Mosque.  
c) State the importance of drawing in estimation. 3  
d) State the size of title block for all sizes of drawing sheet as per BIS. 1  
e) Define scale. 1

OR

2. a) Identify the name from following symbol. 2  
i)  ii)   
iii)  iv)   
b) Define 3  
i) Break line  
ii) Centre line  
iii) Outlines.  
c) State the general rules for dimensioning. 5
3. a) Draw a plan and sectional elevation of a square flag pedestal having height 450 (0.45 M) above GL and 200 (0.20 M) below GL. The dimensions of first step from GL is 2500 x 2500 (2.50 M x 2.50 m). The offset between the steps is 300 (0.30m) on each side. There are 03 square steps above GL. The pedestal is constructed in 1:6 B.B.M with C.M. (1:4) plaster on all sides. The granite stone is used on the steps. The G.I. pipe 150φ is fixed in the bed concrete with suitable hold fast and P.C.C. (1:2:4). The height of pole is 4.0 M above G.L. (Use 1:20 scale) 5+5

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b)

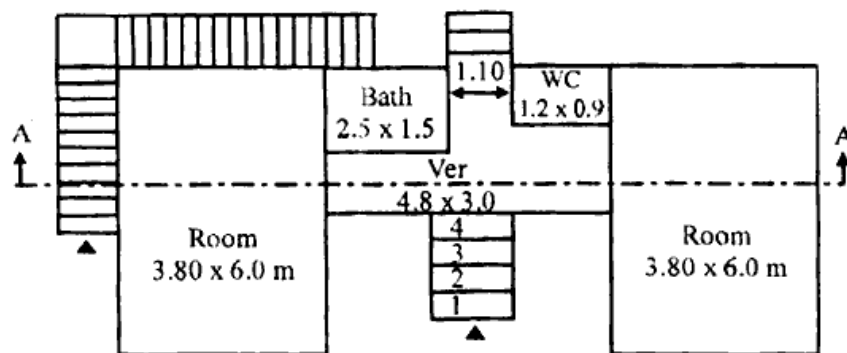


Fig. Q-3-b

The single line plan of a small house of load bearing type as shown in fig. Q-3-b. The specifications are as below

- i) The foundation is taken upto a depth of 1.2 M below GL for all walls. The bed concrete 1:3:6, 0.1 M tk and 0.9 m wide, provide spread footing of suitable offset.
- ii) The plinth level is 0.9 M above GL.
- iii) The super structure is of (1:6) B.B.M. and 0.3 M tk.
- iv) R.C.C. slab (1:2:4) of 0.1 M tk is provided at roof level.
- v) Assume the sizes of all openings and nos, mention them separately. Assume any other data regarding the drawing by mentioning it clearly.

Draw the followings

- i) Detailed dimensioned working drawing showing all details of openings with schedule. 10
- ii) Front elevation. 5
- iii) Back side elevation. 5

OR

4. The fig Q-03-b shows a single line plan of a small house of R.C.C. frame structure type. The specifications are as below.

- i) All R.C.C. columns are placed at all corners of all rooms of size 230 x 350.
- ii) The depth of excavation is 1200 and PL is 750 above GL.
- iii) All internal and external walls are 100 and 230 tk of (1:4) C.M. respectively.
- iv) Provide SB, LB PB of 230 x 400 size.
- v) R.C.C. floor slab of 100 tk (1:2:4) at roof level.
- vi) Assume the sizes and numbers of openings. Assume any other data required for completion of drawing and mention it separately.

Draw the following for R.C.C. frame structure.

- i) Detailed dimensioned working drawing showing all details of opening with its schedule. 10
- ii) Design the quarter turn staircase and draw it in que (i). 4
- iii) Front elevation. 5
- iv) Back elevation. 5
- v) Section A-A. 6

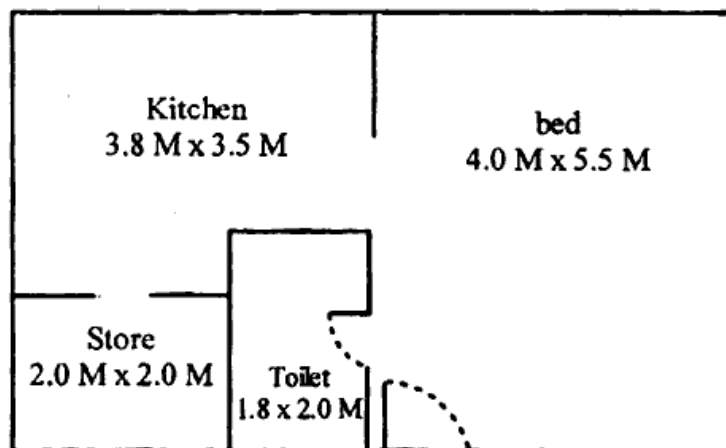
**SECTION – B**

5. a) Prepare a single line plan for a advocate. The size of plot is 17.0 M x 23.0 M. The allowable built up area is 33% of the plot area. The family of advocate is 05 persons (02+03 childrens). Assume suitable data and mention it separately. **10**
- b) Name two philosophies of design of earth quake prone structure. **2**
- c) Name the artificial methods of ventilation adopted for residential building. **2**
- d) Prepare a single line plan for parking area of a school building on the graph paper. The parking area is in the front side of the school building. Assume suitable area for parking area. Show the internal roads, parking stacks, watchmans cabin, electric poles etc. Assume suitable area for cycle, two wheelers and four wheelers. There are 04 cars, 50-60 two wheelers and 100-120 cycles in the parking area. **6**

**OR**

6. a) Prepare a single line plan for a teacher on the graph paper. The size of plot is 12.0 M x 19.0 M, the allowable built up area is 33% of plot area. Assume family size. **9**

- b) **8**



Q-6-b

Q-6-b fig shows a line plan. Prepare a single line plan of furniture with all dimensions, the plan is to be drawn on the graph paper. Also prepare plan of electrical fittings. Both plans are to be drawn separately.

- c) Explain with neat sketch the provision of **3**
- i) a balcony
  - ii) Mezzanine floor
7. a) Prepare a single line plan on the graph paper for a two wheeler vehicle shop. It should consist of sales and service of two wheeler. The size of plot is 19.0 M x 30.0 M. The plot is adjacent to S.H. **8**
- b) Draw a free hand sketch of a balcony of bed room on the first floor having clear dimensions of balcony as 3.50 M x 1.10 M. Draw on the drawing sheet with dimensions, plan and front elevation. **4**

- c) Define 3  
i) Picture plane.  
ii) Vanishing point.  
iii) Angle of vision.
- d) State the requirements of a boundary wall of a plot as per building byelaws. 2
- e) State the advantages and disadvantages of semi-detached house. 3

**OR**

8. a) Prepare a single line plan of a college canteen with following particulars. 8  
i) Students dining/snacks hall – 100 sqm.  
ii) Staff room – 30 sqm  
iii) Kitchen – 40 sqm  
iv) Store – 20 sqm  
v) Photocopy. Store, - 10 sqm.  
Use graph paper for single line plan.
- b) State the limitations of perspective drawing. 4
- c) What is mean by free hand sketch. State the uses of it. 4
- d) List the documents required for submitting the application form to convert the land from agriculture to residential purpose. 4

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