

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

P. Pages : 4

Time : Four Hours



AU - 3524 Add

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. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) Draw the conventional symbols of 3
 - i) Man hole
 - ii) Shower head
 - iii) Refrigerator
- b) What is drawing? What are the objects of preparing the drawing. 1+3
- c) Explain with neat sketches 3
 - i) Chain dimensioning
 - ii) Parallel dimensioning.

OR

2. a) State the abbreviations used on building drawing. 2
 - i) Not to scale
 - ii) Soil pipe
- b) Differentiate between the following. 4
 - i) Break line & section line
 - ii) Blue print & ammonia print
- c) Define : 4
 - i) Plan
 - ii) Elevation
 - iii) Section
 - iv) Schedules

3.

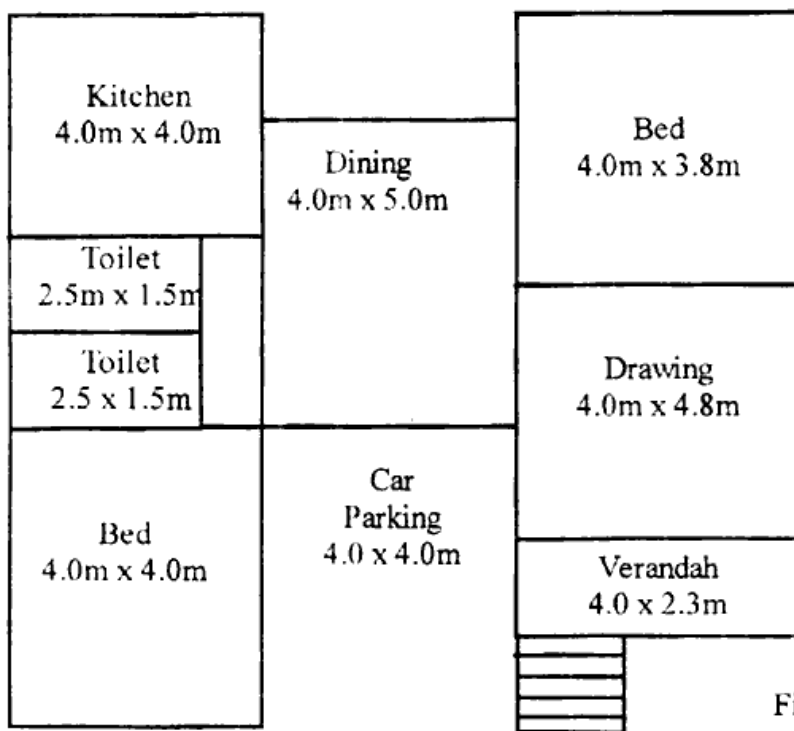


Fig. Q. 3

The single line plan of a residential building of load bearing type is as shown in fig. Q. 3. some data of the building is as below.

- Foundation : It is taken to a depth of 1200mm below GL. for all walls. The bed 1:4:8 250mm thick & 1200mm wide provide spread footing of suitable offsets
- The plinth level is 600mm above GL.
- Superstructure is of B. B. M. (1:6) in cm
- R.C.C. roof of M-15 grade & 100 mm tk.

Assume any other data regarding the drawing, mention it clearly. Assume suitable sizes of openings. Draw the following for load bearing type residential building.

- A neat dimensioned working drawing plan of fig. 2 – 3.
- Draw front elevation.
- Draw foundation plan.
- Sketch the building in a plot of size 20m x 27m.

10

5

10

5

OR

4.

The fig. Q. 3 shows single line plan of a residential building of R.C.C. frame structure type. The specifications in brief are as follows

- All R.C.C. columns are placed at the corners of all rooms. The size of column is 230mm x 400mm.
- Provide P. B. L. B., S. B. of sizes 230mm x 450mm.
- All internal & external walls are 100mm & 230mm thick respectively and are of B.B. M. (1:6) c.m.
- The depth of excavation is 1200mm and size of excavation pit as 1200mm x 1200mm.
- R.C.C. floor slab is at 3.1 M height from P. L. and 100 mm tk. of M – 15 grade. Assume all other data suitable & mention it separately. Assume opening accordingly.

Draw the following for R.C.C. type building as.

- | | | |
|------|--|----|
| i) | Draw the working drawing for the plan as shown in fig. Q. 3. | 10 |
| ii) | Draw front elevation. | 5 |
| iii) | Draw foundation plan. | 10 |
| iv) | Draw backside elevation. | 5 |

SECTION – B

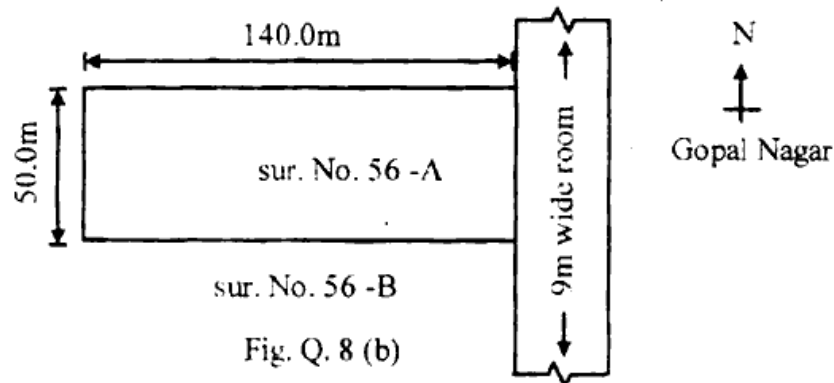
- | | | | |
|----|----|---|----|
| 5. | a) | Explain what points you will consider while achieving maximum benefits of aspect. | 5 |
| | b) | Differentiate between hot-dry and hot-wet climate. | 3 |
| | c) | Prepare a single line plan on the graph paper for a postman on a plot measuring 12M x 16M. The allowable built up area should not be more than 33% of plot area. Mention the family size and its requirement separately. Draw the plan with scale, opening etc. | 10 |
| | d) | Draw a single line plan of semi-detached house. | 2 |

OR

- | | | | |
|----|----|--|-----|
| 6. | a) | What is flat. What are the main advantages of residential flat system. | 3 |
| | b) | State the type of planning is considered in hot-arid, hot-humid and cold region. | 3 |
| | c) | State the general principles recommended by Indian standard code regarding earthquake about
i) Lightness
ii) Building configuration | 1+3 |
| | d) | State the aims of house drainage. | 4 |
| | e) | Draw a plan, elevation and section of a balcony on the first floor of a building. Assume your own dimensions. Show sizes, railing, seating arrangement in balcony, etc. complete show with all measurements and materials required for different components of the same. | 6 |
| 7. | a) | Define :
i) Station point.
ii) Vanishing point. | 3 |
| | b) | State the factors that should be taken into consideration for suitable size and shape of a class room for a school building. | 6 |
| | c) | The post office is to be constructed at taluka head quarters at a site measuring 50M x 40M. The longer dimension is east west direction with main road along northern side. Prepare a single line plan on the graph paper. | 11 |

OR

8. a) Design sanitary block for a post office having 20 staff members on the graph sheet. The area of sanitary block is limited up to 4.50 sqm. 5
- b) Prepare a lay-out plan for a housing project measuring 50M x 140M as shown in the fig. Q. 8 – b. Draw the lay-out of the housing project on the drawing sheet. 15



Assume scale 1cm = 10M, Minimum area of a plot as 170sqm, open space for garden as 10% of total lay-out area.

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