

4E2036

Roll No. : _____

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B. Tech. (Sem. IV) (Main & Back) Examination, June/July - 2011

Civil Engg.

4CE5 Building Technology

Time : 3 Hours]

[Total Marks : 80

[Min. Passing Marks : 24

Attempt any five questions. All questions carry equal marks.

Schematic diagrams must be shown wherever necessary.

Any data you feel missing suitably be assumed and stated clearly,

Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.

(Mentioned in form No. 205)

1. Half Size Drawing sheet

2. Nil

1 (a) Explain the criteria of site selection for a building and what do you mean by site plan.

8

(b) What do you understand by Energy conservation in building? State different methods of passive solar heating.

8

OR

1 (a) Discuss the different methods of drawing sun chart.

8

(b) Define the term 'louver'. Explain the use of shadow angle protector in designing horizontal and vertical louver.

2+6

2 (a) What is thermal comfort? Discuss uses of Bioclimatic chart.

8

(b) Discuss various factors affecting orientation of building? Distinguish the criteria of orientation for building lying in the Hot arid zone and Hot humid zone.

8

OR

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1

[Contd...

- 2 (a) Briefly explain various climate modulating devices and their importance.

6

- (b) Explain the various rules and regulation for a building as per the National Building Code. Also state their limit values.

10

- 3 (a) What do you mean by principles of planning ?

6

- (b) State and discuss factors affecting principles of planning ?

10

OR

- 3 Write the factors considered in Vastu planning. Design a residential building on a plot of 30×60 m. Assume suitable data.

16

- 4 Design and draw Bank on a plot of $50 \text{ m} \times 70 \text{ m}$. The requirements of accommodation are as below :

- (a) Entrance and moving space by the side of counter 2.0 meter wide.
- (b) Counter minimum 0.7 m wide for 4 no. clerical staff.
- (c) Working space behind counter minimum 3.5 m.
- (d) Space for working 3 No. officers behind counter.
- (e) Manager room 1 No.
- (f) Cash-cabin 3 No.
- (g) Safe deposit locker 1 No.
- (h) Record Room 1 No.
- (i) Computer room 1 No.
- (j) Sanitary units for female and male
- (k) Pantry room.

Draw a double line plan. Show dimensional details of each room or unit.

16

OR

- 4 Design and draw the plan of a residential building on a plot of $12 \text{ m} \times 22 \text{ m}$. Road is on the North side of the plot.

16



- 5 (a) Discuss in detail the acoustics and sound insulation of a building.

8

- (b) State different types of doors and windows. Differentiate between Bay window and dormer window with sketch.

8

OR

- 5 (a) What is the objective of lighting in building ? State the provision of lighting according to different climate in India.

10

- (b) Write short note on noise control.

6