

Reg. No.

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**B. E / B. TECH.DEGREE EXAMINATION, MAY 2023**

Eighth Semester

**CE18012 – BUILDING SERVICES**

(Civil Engineering)

(Regulation 2018)

TIME:3 HOURS

MAX. MARKS: 100

- CO1** Describe the different building services based on the building type and the parameters to be considered.
- CO2** Summarize the electrical services in the building and the procedures for the layout.
- CO3** Summarize the mechanical services in buildings.
- CO4** Explain about the fire protection, acoustic and sound insulations in a building.
- CO5** Describe about green buildings, rain water harvesting and grey water system.

**PART- A(10x2=20Marks)**

(Answer all Questions)

	CO	RBT LEVEL
1. Write the importance of building services.	1	2
2. List the types of services for multistory flats.	1	2
3. What are the different systems of wiring?	2	2
4. What is thermal insulation?	2	2
5. What are the various components parts of a lift?	3	2
6. Discuss the uses of different types of dumbwaiters lift.	3	2
7. What are the factors to be followed for noise control in residential building?	4	2
8. What are the causes of fire in buildings?	4	2
9. Differentiate the quality of rain water and grey water.	5	2
10. How do you manage the grey water system?	5	2

**PART- B (5x 14=70Marks)**

	Marks	CO	RBT LEVEL
11. (a) How do you upkeep the building environment? Explain the different services required for independent and industrial buildings.	(14)	1	3

**(OR)**

- |                |  |             |          |          |
|----------------|--|-------------|----------|----------|
| <b>(b)</b>     | Describe the natural and mechanical factors to be considered in the design of ventilation.   | <b>(14)</b> | <b>1</b> | <b>3</b> |
| <b>12. (a)</b> | Explain about the electrical services in buildings with suitable examples.   | <b>(14)</b> | <b>2</b> | <b>3</b> |
| <b>(OR)</b>    |  |             |          |          |
| <b>(b)</b>     | Explain with neat sketches of the electrical layout for residence and small workshop.  | <b>(14)</b> | <b>2</b> | <b>3</b> |
| <b>13. (a)</b> | Explain the various types of lifts and its design considerations.  | <b>(14)</b> | <b>3</b> | <b>3</b> |
| <b>(OR)</b>    |  |             |          |          |
| <b>(b)</b>     | Describe the principles of air conditioning and explain the types of air conditioners.   | <b>(14)</b> | <b>3</b> | <b>3</b> |
| <b>14. (a)</b> | Explain the requirements and need of sound insulations in buildings. How do you overcome the problems of acoustics defects in buildings? | <b>(14)</b> | <b>4</b> | <b>3</b> |
| <b>(OR)</b>    |  |             |          |          |
| <b>(b)</b>     | Describe the various characteristics of fire resisting materials.  | <b>(14)</b> | <b>4</b> | <b>3</b> |
| <b>15. (a)</b> | Explain with neat sketch, the rain water harvesting system for buildings.  | <b>(14)</b> | <b>5</b> | <b>3</b> |
| <b>(OR)</b>    |  |             |          |          |
| <b>(b)</b>     | State the concepts of green buildings and describe the various components of green buildings.  | <b>(14)</b> | <b>5</b> | <b>3</b> |

**PART- C (1x 10=10Marks)**

(Q.No.16 is compulsory)

- |            |  | Marks       | CO       | RBT<br>LEVEL |
|------------|--|-------------|----------|--------------|
| <b>16.</b> | Explain with neat sketches of the working principles and applications of the escalators. | <b>(10)</b> | <b>3</b> | <b>5</b>     |

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