

Roll No .....

**AR-417 (3) (CBGS)**

**B.Arch., VII Semester**

Examination, November 2019

**Choice Based Grading System (CBGS)**

**Sustainable Architecture and Smart City Concepts**

(Elective - III)

Time : Three Hours

Maximum Marks : 50

Note: i) Answer any five questions.

ii) Draw neat sketches where ever needed.

iii) All questions carry equal marks.

1. Write short notes on any four of the following :

- a) Sun angles and shadow angles
- b) Time lag and thermal diffusivity
- c) U-values and k-values
- d) Climatic zones in India
- e) Facade articulation.

2. Taking an example of a prominent LEED Gold or Platinum rated building explain in detail the issues and challenges while designing a green building.

3. What is solarium? How does it function in heating of indoor air mass? Explain the design considerations to integrate solarium in a school building at Shimla.

4. Write a brief note on IGBC and LEED.

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5. Write a detailed note on energy conservation (Amendment) Act, 2010.

6. Write a detailed essay on sustainable and energy efficient development by following the guideline of ECBC 2007.

7. Write about the following :

- Waste management methods in GRIHA rated building.
- Whole building performance method.

8. Write short notes on any four of the following :

- a) Earth air tunnel
- b) Vary thermal wall
- c) Fenestration
- d) Sun spaces
- e) Radiation cooling.

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