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B.Architecture (2012 & Onwards) (Sem.-4) **CLIMATE AND SUSTAINABILITY-I**

Subject Code: BACH-406 M.Code: 71021

Time: 3 Hrs. Max. Marks: 60

INSTRUCTION TO CANDIDATES:

- **SECTION-A** is compulsory.
- All question carry EQUAL marks except question no. 1.
- Attempt any FIVE questions including compulsory question with minimum one question from each SECTION.

SECTION-A

- 1. Write short notes on the following (any six):
 - itsikatiket com a) Effective temperature isopleths
 - b) Bio-climatic chart
 - c) Wet-bulb thermometer
 - d) Site climate
 - e) Stack effect
 - Solar azimuth and solar altitude
 - g) Effects of winds on climate at a global scale

 $(6 \times 2 = 12)$

SECTION-B

- 2. Explain the mechanism of ventilation and air movement around a building. Also enumerate the factors affecting indoor air flow of a built form. (12)
- What do you understand by orientation? Explain in detail the factors influencing 3. orientation of built form with respect to sun and wind. (12)

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SECTION-C

- 4. (a) Define the term Human thermal comfort with suitable examples.
 - (b) Explain in detail the thermal balance of human body and subjective variable affecting it. (12)
- 5. What are the different types of shading devices? Explain the use of solar chart and shadow angle protector for working out shading devices for buildings. Give illustrated examples. (12)
- 6. How do clear sky conditions play an important role in daylight harvesting? Support your answer with necessary graphical illustration. (12)

SECTION-D

- 7. Discuss in detail the principles and importance of sustainability. What are the various strategies and techniques used for energy saving in the building? (12)
- 8. Enumerate the typical features and concept of sustainable buildings. Explain with the help of neat sketches and detailed notes, what measures an architect should take for a climate responsive design of project? (12)

NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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