

CBCS SCHEME

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18ARC33

Third Semester B.Arch. Degree Examination, June/July 2023

Climatology

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Draw relevant sketches wherever necessary.

Module-1

- 1 a. What is the difference between Climate and Weather? What is Site Climate? Explain the effects of landscape elements on Site Climate. (12 Marks)
b. List the major and subzones of tropical climate and briefly explain any one. (08 Marks)

OR

- 2 a. Describe Macro and Micro – Climate. (08 Marks)
b. What is Thermal Balance? Explain the thermal balance between Human body and its Environment. (12 Marks)

Module-2

- 3 a. Draw and explain various parts of a sun path diagram and its components. (08 Marks)
b. Explain some passive heating and cooling design strategies with sketches. (12 Marks)

OR

- 4 a. Explain in detail the process of heat exchange of buildings with the explanation of all factors. (12 Marks)
b. What are the Thermal Comfort Indices? Explain any two in detail. (08 Marks)

Module-3

- 5 a. What is meant by Time – lag? How can this concept be adopted in buildings broadly in major climatic zones? Explain for each. (12 Marks)
b. Explain the effect of U - Value, Thermal capacity and Surface characteristics in the Thermal performance of a building envelope. (08 Marks)

OR

- 6 a. Explain in detail with Formulae, Conductivity , Resistivity, Diffusivity and Thermal capacity. (12 Marks)
b. What is Thermal Insulation? Briefly explain the various methods for roof and wall insulation. (08 Marks)

Module-4

- 7 a. Explain with sketches different types of external shading devices. (08 Marks)
b. Explain important function of ventilation in buildings. (12 Marks)

OR

- 8 a. Explain Horizontal and Vertical shadow angle, with neat sketches. (08 Marks)
b. What are the effects of Openings and External features on Internal Air Flow? Explain with neat sketches. (12 Marks)

Module-5

- 9 What is Artificial and Natural lighting? Explain day light factor concepts and techniques that can be used for ensuring natural lighting inside a room. (20 Marks)

OR

- 10 The traditional architecture of a region is an example of evolution in response to the climate of that region. Explain in detail with examples emphasizing planning principles, building elements and selection of materials. (20 Marks)
