



CBCS SCHEME

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21ARC33

Third Semester B.Arch. Degree Examination, June/July 2026 Climatology

Time: 3 hrs.

Max. Marks: 100

- Note: 1. Answer any FIVE full questions, choosing one full question from each module.
2. Sketch wherever necessary.*

Module-1

- 1 a. Discuss how humankind's architectural and industrial interventions are resulting to environmental degradation and climate change. (05 Marks)
- b. Discuss about characteristics of following 2 Indian climatic zones. Also explain the important design considerations to be made to achieve thermal comfort.
- i) Composite
- ii) Warm and humid (15 Marks)

OR

- 2 Explain with neat sketches the process of heat production and heat loss in a human body in various thermal environment and variables. Also discuss thermal balance of the body. (20 Marks)

Module-2

- 3 a. Explain various components of sunpath diagram with neat sketches. (10 Marks)
- b. Explain the importance of solar Geometry and solar charts in climatic design. (10 Marks)

OR

- 4 Describe following with neat sketches:
- a. Thermal comfort indices
- b. Kata Thermometer
- c. Bioclimatic chart
- d. Over heated and under heated period. (20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice

Module-3

5 Write short notes on followings:

- a. Conduction
- b. U-value and R-value
- c. Time lag
- d. Cavity walls

(20 Marks)

OR

6 Explain Periodic heat flow and Decrement factor with neat sketches.

(20 Marks)

Module-4

7 a. Define Vertical shadow angle and Horizontal shadow angle. Discuss the procedure/steps of designing shading device. (10 Marks)

b. What is Stack effect? Discuss the advantages of natural ventilation. (10 Marks)

OR

8 Discuss the effects of orientation and openings on internal airflow with neat sketches.

(20 Marks)

Module-5

9 Define following terminologies and mention their units:

- a. Illuminance
- b. Luminous flux
- c. Reflection
- d. Glare
- e. Color Rendering Index

(20 Marks)

OR

10 Define Daylight factor and its components. Discuss 5 daylight design strategies for hot and dry climate along with sketches. (20 Marks)
