

# CBCS SCHEME



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21ARC33

## Third Semester B.Arch. Degree Examination, Jan./Feb. 2023 Climatology

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 Discuss the current climatic crises in general and explain the site climate and built form interaction with the help of examples for any one climatic zone. (20 Marks)

OR

- 2 a. Discuss the importance of thermal comfort and how buildings need to respond to the same. (10 Marks)  
b. Write short note on dry-bulb and wet-bulb temperature (05 Marks)  
c. Write short note on Kata-thermometer and Globe thermometer (05 Marks)

### Module-2

- 3 Elaborate on the study of solar geometry and its significance during the process of building design with the help of sun-path diagram and solar chart. (20 Marks)

OR

- 4 Write short notes on :  
a. Concept of sol-air temperature and solar gain factor (06 Marks)  
b. Thermal properties and performance of any 2 material. (08 Marks)  
c. Passive cooling. (06 Marks)

### Module-3

- 5 a. Discuss thermal heat gain or loss with the help of examples. (10 Marks)  
b. Explain 'U' value. (05 Marks)  
c. Types of heat transfer. (05 Marks)

OR

- 6 Discuss the construction techniques used to improve thermal performance of walls and roofs. (20 Marks)

### Module-4

- 7 a. Explain the role of shading device in a building along with different types of shading devices. (12 Marks)  
b. Discuss stack effect due to thermal force and wind velocity. (08 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.

OR

8 Write short notes on :

- a. Shaded courtyards
- b. Wind scoops
- c. Roof ponds.

(08 Marks)

(06 Marks)

(06 Marks)

Module-5

9 How day lighting is transmitted in different climatic zones? Explain with examples.

(20 Marks)

OR

10 Discuss climatic design consideration of informal settlement and formal/designed settlement with the help of examples

(20 Marks)

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