

# CBCS SCHEME

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15ARC33

Third Semester B.Arch. Degree Examination, Dec.2019/Jan.2020

## Climatology

Time: 3 hrs.

Max. Marks:100

**Note: 1. Answer ONE full question from each Module.  
2. Draw Relevant sketches wherever necessary.**

### MODULE - 1

- 1 a. What is Site Climate? Explain effects of Landscape elements on site climate, with neat sketches. (12 Marks)
- b. Analyse the factors causing deviation of the urban climate from regional micro climate. (08 Marks)

OR

- 2 a. Define Thermal comfort relating to the Thermoregulatory mechanism of Human Body. (08 Marks)
- b. What are the main climate zones in India? Explain the characteristic of warm humid climate zone in detail with climate design recommendations for designing shelters in such regions. Illustrate with sketches. (12 Marks)

### MODULE - 2

- 3 a. Explain solar chart and its components. (10 Marks)
- b. Explain some passive heating and cooling design strategies with the help of neat sketches. (10 Marks)

OR

- 4 Explain Thermo – Physical properties of any four building materials and its effects on Indoor Thermal Environment. Explain with cross sections of Walls / Roofs. (20 Marks)

### MODULE - 3

- 5 a. How does 'U' value of building elements influences the heat inflow into the space? Explain. (10 Marks)
- b. Discuss the significance of time lag for buildings in hot climate. (10 Marks)

OR

- 6 What is Thermal Insulation? Explain the various methods for Roof and Wall Insulation. (20 Marks)

### MODULE - 4

- 7 a. What are the considerations while designing effective shading in hot dry / warm humid climates? (10 Marks)
- b. Explain with neat sketches, different types of external shading devices. (10 Marks)

OR

- 8 Explain the effects of design considerations of the openings on the internal air flow of a building. Draw relevant sketches. (20 Marks)

**MODULE - 5**

- 9 What is Artificial and Natural lighting? The ultimate source of day light is sun, and therefore explain day light factor concepts and techniques that can be used for ensuring natural lighting inside the rooms. Illustrate with examples. (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 taking any climate zone and buildings there as examples, emphasizing building elements and selection of materials. (20 Marks)

