

CBCS SCHEME

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15ARC3.3

Third Semester B.Arch. Degree Examination, June/July 2017 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 required.*

Module-1

- 1 a. Identify and define any four elements of climate and units of measurement of these elements. (08 Marks)
b. Briefly explain the instruments used to measure these elements with neat sketches. (12 Marks)

OR

- 2 a. What are the major climatic zones of India? Explain any two in detail. (10 Marks)
b. Explain thermal balance between human body and its environment. (10 Marks)

Module-2

- 3 a. Draw and explain various components of sun path diagram. (08 Marks)
b. Identify the fundamental issue pertaining to indoor thermal comfort in hot-dry climates. Discuss the significance of built-form in this context. (12 Marks)

OR

- 4 a. Define k-value, Thermal resistance and Sol-Air temperatures. What are their units and dependencies? (08 Marks)
b. Explain the process of heat exchange between the building envelop and its surroundings. (12 Marks)

Module-3

- 5 a. What is meant by time-lag? How the concept of time-lag can be adopted in buildings in hot climates? Explain. (08 Marks)
b. Explain the effect of U-value, Thermal capacity and Surface characteristics in the thermal performance of a building envelope. (12 Marks)

OR

- 6 Explain in detail with formulae, conductivity, resistivity, diffusivity and thermal capacity. (20 Marks)

Module-4

- 7 Explain horizontal and vertical shadow angle with neat sketches. Illustrate various shading devices in buildings. (20 Marks)

OR

- 8 a. Explain important functions of ventilation in buildings. (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 a. Explain the sources of day light with sketches. (08 Marks)
b. Define day light factor. Discuss the role of 'Day light' in the design of architectural studio. (12 Marks)

OR

- 10 With the help of illustration, compare natural ventilation requirements for hot & dry climate with warm and humid climate. Draw plan, section and views to support your comparison. (20 Marks)

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