

CBCS SCHEME

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15ARC3.3

Third Semester B. Arch Degree Examination, Dec.2018/Jan.2019

Climatology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

- 1 a. What is Psychrometric chart? Explain its components with the help of sketches. (05 Marks)
b. List major and sub-zones of tropical climate and explain any two in detail. (15 Marks)

OR

- 2 a. What is site climate? Explain the factors governing the site climate. (12 Marks)
b. Analyse the factors causing deviation of the urban climate from regional macro climate. (08 Marks)

Module-2

- 3 a. Explain thermal comfort and the factors affecting thermal comfort. (10 Marks)
b. Explain the process of thermo regulatory mechanism of human body. (10 Marks)

OR

- 4 a. Name the two angles that determine the position of the sun with respect to a given point on the surface of the earth. Draw sketches to explain. (10 Marks)
b. What are the thermal comfort indices? Explain any two in detail. (10 Marks)

Module-3

- 5 Explain the following :
a. U-value.
b. Time lag
c. Cavity walls
d. Thermal insulation. (20 Marks)

OR

- 6 Describe "Heat exchange process of a building with outdoor environment", with respect to various types of heat flows and their formulae. (20 Marks)

Module-4

- 7 a. Explain stack effect due to thermal force and wind velocity. (08 Marks)
b. Explain the effect of size and position of openings on internal air circulation, with the help of sketches. (12 Marks)

OR

- 8 a. Describe different types of shading devices. (08 Marks)
b. Explain the procedure of selection of shading devices for a particular wall orientation using sunpath diagram. (12 Marks)

Module-5

- 9 a. What is Day-Light factor? (05 Marks)
b. With the help of literature study explain why there is a need for different day-lighting strategies for warm-humid climate and hot-dry climate? Explain with the help of plans, sections and views. (15 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)

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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.