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18ARC33

Third Semester B.Arch. Degree Examination, July/August 2022
Climatology

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain how weather conditions are recorded in Weather station. (10 Marks)
b. Explain the concept of application of effective temperature in Climate design. (10 Marks)

OR

- 2 a. Why is the study of climate and its elements important in building design? (10 Marks)
b. What is Thermal Comfort? Explain the indices of Thermal Comfort. (10 Marks)

Module-2

- 3 a. Explain the principle behind the making of Sun – path diagram. (10 Marks)
b. Workout the critical relationship between Thermal balance of Thermal comfort of Human body, highlighting the body's heat exchange mechanisms. (10 Marks)

OR

- 4 Explain in brief the thermal and physical properties of the building materials of their effect on indoor Environment. (20 Marks)

Module-3

- 5 What is Thermal Insulation? Explain the various methods of roof and wall insulation with sketches. (20 Marks)

OR

- 6 Elaborate on how each of the following help in Thermal Control in buildings :
a. Orientation b. Special glass.
c. Cavity wall d. Shading devices. (20 Marks)

Module-4

- 7 a. How can the incoming radiation through doors, windows and ventilators be controlled? (10 Marks)
b. Justify the requirements of Openings for Natural Ventilation in Buildings. (10 Marks)

OR

- 8 a. Explain the various components of day light factors. (10 Marks)
b. Explain the factors to be considered for achieving Natural Ventilation in buildings. (10 Marks)

Module-5

- 9 Design a Single Bedroom House in warm humid climate. Explain the strategies to create comfortable Environment in built space. (20 Marks)

OR

- 10 Explain the design considerations in design of Hot dry settlement with an example. (20 Marks)