

AR-1950

Faculty of Engineering & Technology
B.Arch. (Architecture) IV Semester (CGS) Examination
APPLIED CLIMATOLOGY—II
(10031)
Paper—04 AR 04

Time : Three Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

- (1) Question No. 9 is compulsory.
- (2) Due credit will be given to neatness and adequate dimensions.
- (3) Assume suitable data wherever necessary.
- (4) Illustrate your answers wherever necessary with the help of neat sketches.
- (5) Other Special instruction, if any use of solar chart is permissible.
- (6) Use pen of Blue/Black ink/refill only for writing the answer book.

1. Describe with sketches the planning, designing ; materials and techniques used in traditional structures to achieve comfort levels in particular climate. 16

OR

2. Explain Micro and Macro climatic conditions and its impact on indoor and outdoor spaces. 16
3. (a) Explain the importance of thermal properties of building materials. 6
- (b) Describe the thermal properties of traditional and modern building materials. 10

OR

4. (a) Explain with diagram the use of Shadow Angle Protractor. 8
- (b) Explain Orientation of builtform with respect to sun path diagram. 8
5. (a) Explain stack effect and its purpose. 8
- (b) Explain solar chart and its purpose. 8

OR

6. (a) Explain with diagram the Horizontal and Vertical Shadow Angles. 8
- (b) Explain Heliodon and its purpose. 8
7. (a) Explain the sources of daylight entering a building. 8
- (b) Explain the daylight factor concept and its importance. 8

OR

8. (a) Explain Ventilation system and types of ventilations. 8
- (b) Explain with sketches the example of passive cooling techniques. 8
9. Design and draw to a suitable scale a shading device for an Entrance opening having dimensions 2.4 m×4.0 m facing towards South-West on 15th May at an attitude 20°N location. The shadow must be cast in peak afternoon hours. Suggest your comments on the orientation of opening. (Use of solar chart is permissible). 16