Third Semester B.Arch. Degree (CBCS) Examination, Dec.2016/Jan.2017
Climatology

Time: 3 hrs.

Max. Marks:100

Note: 1. Answer *FIVE full questions, selecting*
ONE full question from each module.
2. Draw relevant sketches.

Module – 1

1 a. Name any five elements of climate, units of measurement and the instruments used to measure. Which have the strongest influence on thermal comfort? **(10 Marks)**

   b. List major and subzones of tropical climate and briefly explain any one. **(10 Marks)**

OR

2 Explain the thermal balance between the human body and its environment. **(20 Marks)**

Module – 2

3 a. What are the various indices of thermal comfort? Explain any two in detail. **(10 Marks)**

   b. Describe "Heat exchange process of building" with outdoor environment. **(10 Marks)**

OR

4 a. What is a sun path diagram? Explain its components. **(08 Marks)**

   b. How do you calculate the Horizontal and vertical shadow angles for various wall orientations using sun path diagram? **(12 Marks)**

Module – 3

5 Explain the following briefly :

   a. Time lag   b. U-value   c. Egg crate shading device   d. Effective temperature. **(20 Marks)**

OR

6 Explain with sketches the various types of heat flow from an enclosure (in steady conditions) along with their formulae, assuming enclosure is exposed to Air temperature, solar radiation, air movement and has internal occupancy. **(20 Marks)**

Module – 4

7 List and describe different types of shading devices. Explain the procedure of designing any one of them with suitable example. **(20 Marks)**

OR

8 a. Explain the various functions of ventilation in building. **(05 Marks)**

   b. Explain the effects of different types of location of opening and external features on internal air flow, with sketches. **(15 Marks)**

Module – 5

9 a. What is Day light factor? **(05 Marks)**

   b. Explain its various components. **(15 Marks)**

OR

10 With the help of a literature study, explain the design considerations for building in hot dry climate. Illustrate with plans, section and views. **(20 Marks)**

* * * * *