

Seat No. : _____

NS-133

December-2015

B.Arch., Sem.-III

AR-306 : Climatology

Time : 3 Hours]

[Max. Marks : 50

- Instructions :**
- (1) All question are compulsory.
 - (2) Figures on the right indicate full marks.
 - (3) Draw neat and clean sketches.
 - (4) Assume additional Data, if necessary and state the same clearly.

1. Answer any **two** of the following : **16**
 - (a) What is sound ? Explain the sensibility of the human ears for the audio range of the sound. Explain the decibel scale.
 - (b) Explain the nature of light transmission and types of reflection. What are illumination quantity required for different tasks.
 - (c) Explain the function of ventilation. How the air movement in the building is affected due to orientation size and position of openings.

2. Answer in short any **three** : **9**
 - (a) Explain the thermal balance of human body. What is total comfort ?
 - (b) Explain Stevenson Screen and Hygrograph.
 - (c) Explain Bio-climatic chart with sun path diagram.
 - (d) What are horizontal and vertical shading devices used in design of buildings ?

3. Answer any **two** of the following : **16**
 - (a) What is climatic zone ? Describe various types of climatic zones and explain any one in detail.
 - (b) Explain solar geometry between the sun and earth. How is it responsible for the formation of different climatic zones on the earth ?
 - (c) Describe the planning and passive design techniques used in design of building in tropical climate.

4. Differentiate between the following : (any **three**) **9**
 - (a) Echo and reverberation
 - (b) Solar Azimuth angle and altitude angle
 - (c) Macro climate and micro climate
 - (d) Noise and Sound
