

AR352 **Climatology** (2-0-0)

To apply the principles of climatology in architectural design

Module-1

Introduction to climatic environment and its effect on human comfort.

Macroclimate and microclimate, study of world climatic zones, tropical climate in particular.

Climatic elements- sun, solar radiation, temperature, wind, humidity, cloud, precipitation etc.

Sun path diagram and uses of sun path diagram, design of shading devices.

Module -2

Ventilation and air flow principles, principles of natural ventilation, air change, wind flow around buildings and air flow patterns inside buildings.

Micro climate and Macro climate.

Tropical climate. Characteristics of warm and humid, hot and dry and composite climates. Orientation of single building. Building material and construction in the tropical climate.

Module-3

Effect of landscape elements on climate /building. Thermal effects of buildings, thermal insulation of building, Techniques of thermal insulation of roofs, exposed walls ;exposed windows, doors and ventilators. Introduction to passive solar techniques of thermal comfort in design

Module- 4

Day lighting- sky as the source of internal light, day light factor,

Components of daylight factor - the sky component, the internal and external reflected Component, glare, recommended levels of illumination for different types of building interiors.

NB: Buildings of architectural value to be measured in details and drawings in appropriate scale to be prepared. Use of different survey instruments to measure the height of building. . Free hand perspective and scio-graphy of the building