

# **GUJARAT TECHNOLOGICAL UNIVERSITY**

## **Syllabus for B.Arch**

### **THIRD SEMESTER**

**SUBJECT NAME: Environmental Science**

**SUBJECT CODE: 1035005**

**Focus:** Built Environment & Climate

**Content:**

- Climate – Constituent elements, Classification of tropical climatic zones. Effect of climate on man, shelter and environment.
- Human comfort conditions – Comfort chart, Comfort Zone, Effective temperature.
- Macroclimate and Micro climate.
- Effect of landscape Elements on Climate and Architecture.
- Impact of climate and building on Ecological balance – introduction.

Solar radiation and Architecture. Thermal effect on building materials.

- Ventilation- Air movement & fenestration, solar orientation, Sun path pattern & shading devices, Air flow patterns inside buildings and in building layouts. Effect of Humidity on buildings.
- Traditional House Form & Settlement pattern in various tropical climates. Regional approaches in the application of the principals of climate control in the Design of Buildings.
- Design Tools – Mahoney Tables, Sun Path diagrams, etc.
- Day lighting – components, architectural methods of borrowing day light; control of glare.

Sessional work based upon above topics.