

GUJARAT TECHNOLOGICAL UNIVERSITY
B.ARCH - SEMESTER- III • EXAMINATION – SUMMER 2014

Subject Code: 1035005**Date: 04-06-2014****Subject Name: Environmental Science****Time: 2:30 PM to 4:30 PM****Total Marks: 50****Instructions:**

1. Attempt all questions.
2. Make suitable sketches wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** How do you think the study of Environmental science co-relate with Architecture? **05**
(b) What is 'Climate'? Enlist and explain briefly parameters of 'Climate'? **05**
- Q.2 (a)** Explain briefly alongwith a sketch: Heat exchange process of a human body. **05**
(b) Through which aspects or elements does a building respond to climate and how? **05**
- OR**
- (b)** Explain briefly: Sun path diagram, solar altitude angle and solar azimuth angle. **05**
- Q.3 (a)** Write a short note on: Ventilation. **05**
(b) Write a short note on: Light & its behavior. **05**
- OR**
- Q.3 (a)** Enlist: Passive cooling techniques required in Tropical climatic regions and Passive heating techniques required in Cold dry climatic regions **05**
(b) Define the following: **05**
1. Latitude and Longitude
2. Macro-climate and Micro-climate
- Q.4** Write down design guidelines for the following climate zones: (any two) **10**
1. Hot Dry
2. Warm Humid
3. Cold Dry
- OR**
- Q.4** Draw section or view of the following: (any two) **10**
1. Trombe wall
2. Solar chimney
3. Wind tower
- Q.5** Explain with suitable examples, how vernacular settlements and architectural specimens in different parts of India respond to respective climate zones. **10**
- OR**
- Q.5** Write a short note on: Various negative aspects of contemporary buildings (on the basis of climate responsiveness) in Indian cities which make conditions worse for the users of the buildings. **10**
