

Seat No.: _____

Enrolment No. _____

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

Subject Code: 1035005

Date: 01-01-2015

Subject Name: Environmental Science

Time: 2:30 PM to 4:30 PM

Total Marks: 50

Instructions:

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

- Q.1** (a) Define following with appropriate sketches. (Any 5) **05**
1 Solar Radiation
2 Heat
3 Effective Temperature
4 Conduction
5 Reflection
6 Cavity wall
(b) Describe in detail the factors affecting the site climate. **05**
- Q.2** (a) Explain the process of heat exchange in the building, with appropriate sketches. **05**
(b) Explain the following with sketches **05**
1 De-humidification
2 Bioclimatic Chart
- Q.3** (a) What design criteria should be kept in mind while designing in composite climate? **05**
(b) Explain active and passive thermal control. **05**
- Q.4** (a) How size, positioning and control of opening effect ventilation. **05**
(b) Explain dual nature of light. Explain different types of reflection. **05**
- Q.5** (a) Explain the concept of day light factor. How day light should be addressed in hot dry climate? **05**
(b) Explain the working of Sun path diagram, with appropriate sketches. **05**
- Q.6** (a) Differentiate between hot-dry climate and warm humid climate. **03**
(b) Explain different types of climates. Explain micro and macro climate. **07**
- Q.7** (a) Explain the concept of periodic heat flow. Show time lag in same. **05**
(b) Explain the concept of orientation of building and cross ventilation. **05**
