

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Arch - SEMESTER- III • EXAMINATION – SUMMER 2017

Subject Code:1035005

Date: 08/05/2017

Subject Name: ENVIRONMENTAL SCIENCE

Time: 02.30PM to 04.30PM

Total Marks: 50

Instructions:

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

- Q.1** (a) Differentiate stack & reverse stack ventilation. **05**
(b) Explain solar chimney with diagrams. **05**

- Q.2** (a) Explain different types of climates. Explain micro and macro climate. **05**
(b) What design criteria should be kept in mind while designing in composite climate? **05**

OR

- (b) Explain the concept of orientation of building and cross ventilation.
- Q.3** (a) Explain the working of Sun path diagram, with appropriate sketches. **05**
(b) Explain the concept of day light factor. How day light should be addressed in hot dry climate? **05**

OR

- (b) Explain the following with sketches.
1. De humidification.
2. Bio climate chart.
- Q.4** (a) What is light? Explain behaviors of light when received by any object. **05**
(b) Describe importance of courtyard & skylights for natural lighting with diagrams. **05**

OR

- (b) Describe any climate responsive traditional building form with diagrams. **05**
- Q.5** (a) What is comfort and comfort zone? Write a short note. **05**

- (b) What are K-Value, R-Value and U-Value? Write a short note. **05**

OR

- Q.5 (a)** Describe the terminology Solar radiation. Which factors will affect the amount of Solar Radiation? **05**

- (b) Define following with appropriate sketches. (ANY FIVE) **05**

1. Solar Radiation
2. Heat
3. Effective temperature
4. Conduction
5. Reflection
6. Cavity wall
