Seat No.:	Enrolment No.

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. How do you think the study of Environmental science co-relate with Architecture? 0.1 (a) 05 What is 'Climate'? Enlist and explain briefly parameters of 'Climate'? **(b)** 05 **Q.2** Explain briefly along with a sketch: Heat exchange process of a human body. 05 (a) Through which aspects or elements does a building respond to climate and how? 05 **(b)** Explain briefly: Sun path diagram, solar altitude angle and solar azimuth angle. 05 **(b)** 0.3 Write a short note on: Ventilation. 05 (a) Write a short note on: Light & its behavior. 05 **(b)** 0.3 Enlist: Passive cooling techniques required in Tropical climatic regions and 05 Passive heating techniques required in Cold dry climatic regions **(b)** Define the following: 05 1. Latitude and Longitude 2. Macro-climate and Micro-climate 0.4 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 0.5 Explain with suitable examples, how vernacular settlements and architectural 10 specimens in different parts of India respond to respective climate zones. OR **Q.5** Write a short note on: Various negative aspects of contemporary buildings (on the 10 basis of climate responsiveness) in Indian cities which make conditions worse for the users of the buildings.
