Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY B.ARCH. - SEMESTER-III EXAMINATION – WINTER 2015

Subject Name: Environmental Science Time: 10:30am to 12:30pm Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. Q.1 (a) What should be taken care for designing walls, roof and floor for cold climate. And what special features can be used to make design climate responsive for cold climate. (b) Differentiate characteristics of hot-dry, warm-humid and composite climate. Q.2 (a) Explain following terms with necessary diagrams (Any 5): 1. Humidity 2. Solar window 3. Solar chimney 4. Azimuth Angle 5. Altitude Angle 6. Conduction 7. Convection (b) How rotation of earth around the Sun and tilted axis of earth affects temperature differences and wind pattern of earth? OR (b) Differentiate wind tunnel and wind tower. Q.3 (a) List down Elements of climate and explain measuring tools for temperature. (b) What is "Wind Shadow" and how does it generate? OR Q.3 (a) Explain Mahoney table and its use. (b) Explain following ventilations: 1. Single sided ventilation 2. Cross ventilation 3. Mechanical ventilation 4. Explain Dual Nature (two different forms) of Light. (b) Explain Dual Nature (two different forms) of Light. (c) Explain Mansell System for classification of surface light OR Q.4 (a) Explain Reflection, Absorption and Transmission of light. (b) What are advantages and disadvantages of daylighting? Q.5 How climate responsiveness in architecture affects social, economical and ecological sustainability. OR Explain any two examples of vernacular architecture which are sensitively designed for climate.		•	Code: 1035005 Date: 08/12/2015	
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