NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE

BACHELOR OF ARCHITECTURE (HONOURS) DEGREE
2012-2013 ACADEMIC YEAR

PART II – FIRST SEMESTER SUPPLEMENTARY EXAMINATIONS – AUGUST 2013

AAR 2104 – ENVIRONMENTAL DESIGN I

Instructions ***Time: 3 hours***

Answer all questions.
Use illustrations were appropriate

QUESTION 1

a. In order to design for a particular site the climatic data of the region, locality and site should be considered in detail. Briefly describe how climatic elements are measured, recorded and used in the design of buildings. (20)

[20]

QUESTION 2

a. Explain the following :Local Climate, Micro climate, Site Climate (5)
b. In the tropics heat is a prevalent problem. Define and describe the common heat exchange processes of buildings. [15] **[20]**

QUESTION 3

a. Describe factors that give rise to global climates(5)
b. Describe the factors of an urban area which can cause deviation from the localized climate of a zone. [15]

[20]

QUESTION 4

a. In hot dry desert climates, humidification of spaces is required. Draw and explain the function of a wind scoop to achieve this.(10)
b. With the aid of diagrams, evaluate how position and size of openings are critical for ventilation in buildings.(15) **[25]**

QUESTION 5

Explain how day lighting is controlled in buildings in Warm humid and hot dry climates (15) **[15]**