the UNIVERSITY of GREENWICH

EXAMINATION PAPER:	**ACADEMIC SESSION 2006 / 2007**
Campus:	**Avery Hill**
School:	**Architecture and Construction**
Programmes:	**BSc (Hons) Construction Business Management** **BSc (Hons) Construction Surveying Management** **BSc (Hons) Real Estate**
Course Code:	**BUIL 1029**
Course Title:	**TECHNOLOGY 3 : THE BUILT ENVIRONMENT**
Level:	**2**
Duration	**2 hours**
Date:	**Wednesday 16th May 2007, start 9.30 am**

INSTRUCTIONS TO CANDIDATES & FOR INVIGILATORS

Answer any THREE questions.

All questions carry equal marks.

Candidates must comply with the "Instructions to Candidates" printed on the examination answer book.

1. a) Measurement of sound uses the dB scale. What scale is commonly used to measure noise? Explain with the aid of graphs why a different scale is required.

(13 marks)

b) The following SPL's were measured in a survey:

i) Mortar Mixer 60dB
ii) Pneumatic Drill 70dB
iii) Vibrating Poker 63dB

In terms of energy intensity how much louder is the Vibrating Poker than the mortar mixer and how much louder is the Pneumatic Drill than the Mortar Mixer?
Explain your answer.

(15 marks)

c) Discuss reasons for using the dB scale for sound measurement.

(5 marks)

2. Explain how you would use a daylight factor protractor to determine the expected daylight factor at the design stage of a building project. Discuss the relative merits of the daylight factor protractor and two other methods of determining D/F at the design stage. How could the D/F be determined after construction?

(25 marks)

Briefly discuss the reasons for using daylight factor instead of lux.

(8 marks)

3. a) Using diagrams to aid your explanation detail how electricity is distributed from the generating station to the domestic consumer in the U.K. You should clearly explain why alternating current is used and why voltages through the grid are much higher than normal domestic supply voltage.

(25 marks)

b) Discuss the advantages of using an RCD (Residual Current Device) in a domestic electrical supply. It might be considered prudent to leave some circuits unprotected. Why would this be and which circuits might we not protect.

(8 marks)

4. Discuss the factors that cause corrosion and the measures that can be taken to reduce its effects.

(33 marks)

5. Plot the following data on the NC curves provided.

FREQUENCY Hz	SPL dB
63	60
125	55
250	45
500	50
1000	40
2000	30
4000	20
8000	30

The data was collected in a room designed to have an NC of 40. (10 marks)

Discuss the meaning of the results and explain the advantages of using NC numbers instead of single readings of dB.

(23 marks)

NC Curves For Question 5