UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualification:-

B.Sc.

ES2223: Technology Studies

COURSE CODE	:	**ENVS2223**
UNIT VALUE	:	**0.50**
DATE	:	**16-MAY-05**
TIME	:	**10.00**
TIME ALLOWED	:	**3 Hours**

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TURN OVER

ENVS2223 TECHNOLOGY STUDIES

Answer 5 questions only.

1. Critically evaluate methods that may be employed on a large inner city site to prevent trespass and the theft of materials.

(20 Marks)

2. Modern deep basements are generally constructed using top-down techniques. Describe using suitable sketched diagrams, the typical sequence of events for this form of construction assuming the basement is situated on an inner-city site. Briefly describe the potential advantages and disadvantages associated with these forms of works.

(20 Marks)

3. The three primary stages of a site investigation are the desk study, the walk over survey and the ground investigation.

a) Briefly discuss the activities associated with each stage and the relationship between all three stages.

(10 Marks)

b) Suggest how the history of the site may be established and why this is of prime importance.

(10 Marks)

4. A steel portal-framed industrial building is to be built on an out of town industrial estate. Describe the duties of the following parties involved in the work, as required by the Construction (Design & Management) Regulations 1994 (CDM)

a) Client

(6 Marks)

b) Designer

(6 Marks)

c) Principle Contractor

(8 Marks)

5. The construction industry could be said to be very fortunate in having such a wide choice of construction plant. This choice however can be a hindrance rather than a help, describe and identify the factors which need to be taken into account when selecting plant and methods for a particular project.

(20 marks)

6. Large commercial and industrial buildings are normally constructed by the adoption of one of three structural solutions: in-situ concrete framing, pre-cast concrete frames or structural steel frames. Those involved in establishing construction methods need to understand fully the system for which they have to plan, including temporary works, handling methods, safety requirements, speed of construction etc. Select two of the above methods and describe the advantages and disadvantages of each in the context of the construction of a multi-storey office block in an inner city location.

(20 Marks)

7. Where ground conditions are incapable of supporting structural loads by more traditional methods, it becomes necessary to use piling. BS 8004: 1986(1) divides piles into three main groups, depending on their effect on the surrounding soil, these are; large displacement piles, small displacement piles and replacement piles. Briefly describe with sketches an example of each system of piling.

(20 Marks)

8. The site and it's boundaries play an important part in the selection of plant and methods, the siting of facilities and storage areas, the sequence of operations and the problems of access. Describe how you would deal with the above factors, whilst planning the site layout for a restricted city centre site, and list the key factors to be considered.

(20 Marks)

END OF PAPER