UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For the following qualifications :-

B.Sc.

ES2223: Technology Studies

COURSE CODE	:	**ENVS2223**
UNIT VALUE	:	**0.50**
DATE	:	**16-MAY-02**
TIME	:	**10.00**
TIME ALLOWED	:	**3 hours**

02-C0429-3-40

TURN OVER

ENVS 2223 TECHNOLOGY STUDIES 1

Answer 5 questions only

1. A multi-storey building incorporating an in-situ concrete frame is to be constructed on a confined urban site. The site is bounded on two sides by five storey dilapidated Victorian buildings with basements, and the other two sides by busy roads.
   Discuss the relationships of the existing buildings and infrastructure with the new building works, and list the factors that would need to be considered during the management of the project.

   (20 Marks)

2. Discuss the primary functions and requirements of curtain walling systems, and illustrate typical fixings to the structural frame.

   (20 Marks)

3. Critically compare the traditional use of steel and concrete composite construction for urban high rise commercial developments with hybrid methods which combine pre-cast concrete, in-situ concrete and steel work, using each to its best advantage. Give examples of building elements where these techniques are used to good effect.

   (20 marks)

4. Buildabilty is a key element in building production.
   Define buildability and appraise its value at both the design and production phases of a construction project.

   (20 Marks)

5. A large single storey basement is to be constructed in reinforced concrete on a confined inner city site.
   (a) Prepare a method statement to illustrate an appropriate technique and construction sequence for the basement.

   (10 Marks)

   (b) Describe with the aid of sketches, the detailing required to ensure watertightness.

   (10 Marks)

6. Soil surveys have indicated high water table levels on a green field site, which is being developed into a park of light industrial buildings.

   Describe and compare two alternative methods for the temporary de-watering of the construction areas during the sub-structure work.

   (20 Marks)

7. Describe and discuss the advantages of demountable partitions and Suspended ceiling systems in modern framed buildings, illustrate your Answer with appropriate sketches.

   (20 Marks)

8. Analyse the main influences that current health and safety requirements have on the design, construction, technology and production of commercial and industrial buildings.

   (20 Marks)

END OF PAPER