

**UNIVERSITY COLLEGE LONDON**

*University of London*

**EXAMINATION FOR INTERNAL STUDENTS**

*For The Following Qualification:-*

*M.Sc.*

**ESGL4: Advanced Integrated Lighting Design**

**COURSE CODE : ENVSGLO4**

**DATE : 21-MAY-03**

**TIME : 14.30**

**TIME ALLOWED : 3 Hours**

UNIVERSITY OF LONDON

MSc DEGREE IN BUILT ENVIRONMENT 2003  
for Internal Students of University College London

ESGL4: Advanced integrated lighting design

Answer **FOUR** questions.

All questions carry equal marks. Use annotated sketches.

1. Successful urban environments cater for the needs of transport, the interaction of people at work and at leisure and, perhaps, the creation of conviviality\*.

Describe appropriate lighting strategies to achieve these aims in streets, squares and piazzas and predict how these might influence the future development of exterior lighting equipment.

[\* conviviality: a sense of festivity or joviality.]

2. An appraisal of the lit environment is undertaken when an existing installation needs to be refurbished or a lighting problem needs to be explored. Which procedures would you follow and what measurement equipment would you use if asked to undertake an appraisal in a complex mixed-use commercial/retail environment eg. an out-of-town shopping centre ?
3. The design of a luminaire requires the consideration of many interlocking factors. Propose a general design *framework* that explores these factors and apply the framework to the design of a free-standing uplighter luminaire.
4. Interest is high in the concept of sustainability – the *sustainable* use of energy and natural resources. Explore how daylighting and electric lighting strategies may be integrated in public and commercial buildings to promote sustainability.

TURN OVER

ESGL4: Advanced integrated lighting design *continued*

5. The lighting requirements for the display of objects and art in museums and galleries often conflict with the requirements for conservation. Identify the points in the lighting design process where conflict occurs and show how the requirements may be reconciled.
6. London is home to some fine theatre facades including The Royal Opera House, Covent Garden, The Theatre Royal, Drury Lane and The Theatre Royal, Haymarket.  
  
Prepare an annotated checklist of the issues involved in the decorative exterior lighting of these facades with particular reference to the treatment of architectural detail and the promotion of 'theatricality'.
7. A lit environment possesses the attributes of brightness and colour distribution and perspective (depth). How may the lighting designer control light source, room surface characteristics and observer position at the conceptual design stage to produce stimulating lit environments ?
8. How can good quality lighting prevent crime in towns and cities ?

END OF PAPER