UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualification:-

M.Sc.

ESGL1: Lighting Fundamentals

COURSE CODE	:	**ENVSGL01**
DATE	:	**03-MAY-05**
TIME	:	**14.30**
TIME ALLOWED	:	**2 Hours**

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UNIVERSITY OF LONDON

MSc DEGREE IN BUILT ENVIRONMENT 2005
for Internal Students of University College London

ESGL1: Lighting fundamentals

Answer **TWO** questions.

All questions carry equal marks. Use annotated sketches.

1. Describe the deterioration of vision that occurs as people get older with reference to both the ageing eye and the development of pathological conditions.

2. a) The following lighting applications have particular requirements. Analyse the features of the visual task in terms of size, contrast, colour, glare, form and texture for each of the applications:

   i) outside aircraft movements and extensive use of display screen equipment in an air traffic control tower

   ii) the safety of swimmers in an indoor swimming pool

   iii) book selection from a bookcase and individual study in a library.

   b) For each application, explain the implications for a proposed lighting solution?

3. a) Define the following terms:

   i) luminous flux

   ii) luminous efficacy

   iii) luminous intensity

   iv) illuminance.

   b) How may the luminous flux and luminous efficacy of a tungsten filament lamp be determined from the curve of its spectral output?

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4. a) Describe how the law of additivity of colour was verified by the work of Guild and Wright and how that work was taken as the basis for an international colour system.

b) Explain how the spectrum locus, the equal-energy white and the locus of a full radiator is represented on the CIE (1931) chromaticity diagram?

END OF PAPER