

UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualification:–

M.Sc.

ESGL5: Lighting Practice

COURSE CODE : ENVSGLO5

DATE : 04–MAY–05

TIME : 14.30

TIME ALLOWED : 2 Hours

UNIVERSITY OF LONDON

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

ESGL5: Lighting practice

Answer **TWO** questions.

All questions carry equal marks. Use annotated sketches.

1. The Society of Light & Lighting (SLL) published its *Code for Lighting* in 2004. Indicate the status of the Code in the context of Acts of Parliament, Regulations and European Directives.

The Schedule to the Code gives recommendations for the lighting of various applications areas in terms of the following parameters: maintained illuminance, limiting glare rating and minimum colour rendering. Explain each of these terms and describe how they vary depending on application area.

2. The Society of Light & Lighting (SLL) publishes *Lighting Guides* which offer specific guidance for designers to complement the material in the *Code for Lighting*. For the following applications areas, outline key issues that need to be considered to promote visual comfort and energy efficiency:

- a) Museums - the display of military uniforms, vehicles and equipment

- b) Healthcare - the 6-bed acute surgical ward

- c) Industrial - vertical storage and racking in the warehouse.

3. There are several techniques for controlling light in the design of luminaires. For the following techniques, describe the underlying principle behind them and indicate the luminaire materials used to exploit them:

- a) specular reflection

- b) diffuse reflection

- c) diffusion

- d) refraction.

TURN OVER

4. Describe the electrical, mechanical and thermal tests that the following luminaires would undergo to comply with BS EN 60 598 *Luminaires*:
- a) Interior Luminaire: recessed downlighter (ceiling-mounted parabolic reflector incorporating a metal-halide lamp)
 - b) Exterior Luminaire: vandal-resistant bulkhead fitting (wall-mounted diffuser incorporating a compact fluorescent lamp).

END OF PAPER