

Sample Examination Questions (to show the format only)

1. (a) Explain the meaning of illuminance and luminance with their units clearly indicated. Discuss the typical situation that each of the two terms is applied to lighting design.

(5 marks)
- (b) Draw a diagram to show the structure of a human eye. Clearly indicate the important elements. Describe the functions of different types of photoreceptors in the human eye.

(5 marks)
- (c) Discuss the benefits and drawbacks of using natural daylighting in university classrooms. Define what is daylight autonomy and explain how it can be used to assess daylighting design.

(5 marks)
- (d) A 50 W fluorescent lamp is replaced with a 10 W LED lamp. The lighting system operates 2500 hours per year and the average electricity price is \$1.5 per kWh. If the investment cost of the lamp replacement is \$800, calculate the annual energy savings and the simple payback of the replacement.

(5 marks)