



TECHNICAL UNIVERSITY OF MOMBASA  
**Faculty of Engineering &  
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING  
**DIPLOMA IN ARCHITECTURE (DA 12M)**

EAR 2203: LIGHTING DESIGN

**SPECIAL/SUPPLEMENTARY EXAMINATION**  
**SERIES: OCTOBER 2013**  
**TIME ALLOWED: 2 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions.

Answer any **THREE** questions  
Maximum marks for each part of a question are as shown  
This paper consists of **TWO** printed pages

**Question One**

Explain:

- (a) Overcast sky
- (b) Luminance at a given attitude (20 marks)

**Question Two**

Briefly explain Daylight factor and luminance (20 marks)

**Question Three**

Explain with sketches use of BRS protractors (20 marks)

**Question Four**

Write brief notes on:

- a) Direct sunlight
- b) Solar heat gain (20 marks)

**Question Five**

Determine no. of light fittings (type A 1.8m, 85w, 5500 lumens) required in a workshop 50m x 4m x 10m  
mt given UF = 0.4, MF = 0.7, illumination required 500 lux (20 marks)