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PHYSICS  
Paper 2  
(Practical)  
Oct./Nov. 2024  
2 hours



**UGANDA NATIONAL EXAMINATIONS BOARD**

**Uganda Certificate of Education**

**PHYSICS**

**Paper 2  
(Practical)**

**2 hours**

**INSTRUCTIONS TO CANDIDATES:**

*This paper consists of two examination items.*

*Answer only one item.*

*Any additional item answered will not be scored.*

*You are not allowed to start working with the apparatus for the first quarter of an hour. This time is to enable candidates; read the items thoroughly, check for the apparatus they need and plan appropriately.*

*Answers to the item must be written in the answer booklets provided.*

*Graph paper is provided.*

*Mathematical tables and silent non-programmable calculators may be used.*

### **Item 1**

Your school wishes to buy glass blocks of refractive indices between 1.4 and 1.6 inclusive, to be used during Physics practical lessons. The Director of Studies (DOS) has received samples of glass blocks from a supplier who claims that they are of the required range of refractive indices.

The DOS wants to confirm the supplier's claim but lacks the knowledge, yet both the teacher of Physics and Laboratory technician are absent.

You have been provided with the sample of the glass block that was delivered to the DOS.

#### **Task**

Help the DOS to verify what the supplier says and advise the school on whether or not to buy the glass blocks.

### **Item 2**

You have visited your friend Sarah who repairs weighing scales and expressed interest in working with her at her workshop. A weighing scale has been brought to her workshop for repair. On examining the scale, she notices that the spring in the scale is faulty and needs replacement. The spring needed for the weighing scale should be of force constant between  $20 \text{ Nm}^{-1}$  and  $40 \text{ Nm}^{-1}$  inclusive.

As part of your interview, Sarah has provided you with a spring whose force constant is unknown and wants you to determine whether or not it can be used to repair the weighing scale.

#### **Task**

Determine whether or not the spring provided to you can be used to repair the weighing scale.