

535/2

PHYSICS

Paper 2

S.3 practical

July/August, 2025

2hrs.



ALLIANCE JOINT EXAMINATIONS BOARD (AJEB)

Uganda Certificate of Education

PHYSICS

Paper 2

Practical

2 hours

INSTRUCTIONS TO CANDIDATES:

This paper consists of two items.

Attempt only one item.

Any additional item(s) answered will not be scored.

All answers must be written in the booklets provided.

Item One.

Your friend was roofing a house in your village of Ivukula, he ordered you to get him nails of masses between **10g** and **50g** inclusive. You went to the hardware shop and the shop attendant gave you **500** identical nails with no specifications on them. On asking him about their masses, he also said he wasn't sure about it and he had no weighing scale in the shop. You have now looked for easier option of knowing their masses but it's becoming hectic indeed.

TASK. *As a student of physics, perform a scientific investigation and determine whether or not the nails given to you are of the required masses so that you deliver them to the construction site.*

Expected apparatus. Meter rule, a nail, a standard mass of 100g or 3 masses of 100g each and 1 mass of 50g, a knife edge, a wooden block, a mathematical set and a conducive working environment.

Item Two.

The lens in your school projector is spoilt and needs a replacement, according to the projector's user manual, the lens should have a focal length between 8.0cm to 12.0cm. The school technician went and bought a lens from a dealer but on inserting it into the projector, only blurry images are seen on the screen. There's a suspicion that the lens that was bought is not of the right focal length.

Task: *You are provided with a lens that the technician bought. As a student of physics, carry out an experiment to approximate the range in which the focal length of the lens falls and write a detailed report to the school technician about your findings. In your report, advise accordingly.*

Expected Apparatus: Convex lens, meter rule, lens holder, screen, wire gauze, bulb, cell holder with 2 dry cells, connecting wires.

END