**BUNJAKKO ISLAND VOC. HIGH SCHOOL MPIGI**

**END OF TERM II ASSESSMENT 2024**

**Uganda Lower Secondary Curriculum Education**

**Senior Two**

PHYSICS

**Paper 1**

Theory

**Time:**

**INSTRUCTIONS TO LEARNERS:**

* This paper consists of **three** examination **Items**.
* Answer **all** examination **Items**.
* Any additional item(**s**) answered will **not** be scored.
* All answers **must** be written in the booklets provided.

**Item One**

On a construction site a builder uses an electric lifter to transfer wet concrete mixture from the ground to a height of  on the building. When power went off and work has to continue, the builders get a rope, a cut jerry can plate with a handle of mass **1.5 kg** to lift to lift a maximum load of **20 kg** concrete mixture to the next floor. They hope to design a simple machine with the help of a grooved rim which enables them resume the work. Given velocity ratio **(V.R**) should be **4** and the rope has to be strong enough in order to support the work of more than .

**Task**

**As** a learner of physics,

1. Help the builders to design the machine and guide them on how it works.
2. Show whether the rope will withstand the load without breaking.
3. Suggest the possible ways to be used in order for the work to be done quickly with ease.

**Item Two**

Students from your secondary school visited the peak of mountain Rwenzori and when they reached the peak it was found to be very cold due to the snow and at the same juncture they met learners from a school from Kampala who were puzzled on how the peak of the mountain can be measured.

**Hint**; (the following materials were available at the tour site)

* length tube with one end closed
* jerry can of mercury
* rule and a retort
* Density of mercury
* Density of air
* Acceleration due to gravity,

**Task**

As a physics learner,

1. Write an essay on how you can help the primary learner measure the height, **H** of the peak.
2. Suppose the barometer read at the top peak from the sea level, help the primary learner determine exact height, **H** in km. (correct to 2dps)
3. Advise the learners on how to dress up when it comes to visit those places near the mountain peaks.

**Item Three**

John a farmer from Bunjakko Village grows different kinds of crops such as cassava, beans, maize, flowers and oranges for commercial purpose. At the end of the season he complains that only cassava, beans, maize and oranges produces high yields and the rest yield poorly provided all conditions for better yields are practiced such as irrigation farming, spraying, organic manures etc. After he intends to transport his yields from the harvests to the market using a taxi on its racker.

**Task**

As a physics learner,

1. Help john a farmer overcome the above challenge and in this case explain.
2. Help John a farmer know the dangers of loading cargo on the taxi racker hence advise him on the correct ways of loading such that his cargo reaches the market and his life safe.

**END**