

ELISHA FOUNDATION HIGH SCHOOL
END OF TERM TWO EXAMS 2019
S.1 PHYSICS
2 Hours 15 minutes

INSTRUCTIONS

- ✓ Answer all questions.
- ✓ Silent non-programmable calculator may be used.

Question one

- a) Distinguish between the following
- i. Fundamental quantities and derived quantities
 - ii. Scalar quantities and vector quantities
- b) Give 4 examples of fundamental quantities and 4 examples of derived quantities, clearly stating their SI units
- c) i. State 4 differences between mass and weight
- ii. A body taken from the earth to the moon is observed to weigh less on the moon than on the earth's surface. Explain this observation.
- iii) Calculate the weight of the body of mass 360g on the surface of the moon ($g=1.67\text{m/s}^2$ on the moon)
- d) Convert
- i. 0.64 kg to g
 - ii. 0.84 tones to g
 - iii. 1 year to seconds
 - iv. 1200 mm to m
- e) Identify 4 measuring instruments for length

Question two

- a) Define the following
- i. Mass
 - ii. Volume
 - iii. Density
 - iv. Area
- b) Calculate
- i. the area of a circle whose diameter is 28 cm (use $\pi = 3.14$)
 - ii. the volume of a cone whose radius is 14 cm and height 15 cm (use $\pi = 3.14$)
- c) With the aid of a diagram, describe how the volume of a stone can be determined using displacement method.
- d) A block of wood measures 0.2m by 0.1m by 0.5m. Find the volume of the wood in cubic centimeters (cm^3)
- e) A piece of anthracite has a volume of 15 cm^3 and a mass of 27g.
What is its density;
- i. in g/cm^3

- ii. in kg/m^3
- f) Identify the measuring instruments for density of a liquid.

Question three

- a) Define
 - i. matter
 - ii. an atom
- b) i. Identify the 3 states of matter
 - ii. Give 2 properties of each state
- c) Draw diagrams to show the arrangement of particles in each state
- d) State 2 effects of heat on matter
- e) Identify the change of state from;
 - i. solid to liquid
 - ii. liquid to solid
 - iii. solid to gas
 - iv. gas to solid
 - v. liquid to gas
 - vi. gas to liquid
- f) State the kinetic theory of matter.

Question four

- a) Define force and state its SI unit
- b) State and define 3 types of forces
- c) Identify 4 effects of force on the motion and shape of a body.
- d) i. Define a resultant force
 - ii. State the condition for a body to be in equilibrium
 - iii. Two forces of 6N and 8N acts on a body of mass 10 kg at right angles. Calculate the magnitude of the resultant force and resultant acceleration on the body.
- e) i. State two types of solid friction
 - ii. Give 2 advantages and 2 disadvantages of friction
 - iii. State 3 ways how friction can be reduced
- f) Friction can be increased by making surfaces rough. Identify 3 ways of making a surface rough.

Question five

- a) Distinguish between heat and temperature
- b) i. Define a thermometric property
 - ii. State 4 examples of thermometric properties
 - iii. Give 3 characteristics of a good thermometric property
- c) Give 4 disadvantages of using water as a thermometric liquid
- d) i. Draw a well labeled diagram of a clinical thermometer
 - ii. What is the use of a constriction on a clinical thermometer?
- e) Outline 3 characteristics of a sensitive thermometer
- f) Convert 27°C

*******END*******

Tr Ean Nasasira (Subject Teacher)