

VIVA COLLEGE SCHOOL HOLIDAY INTERVENTION FACULTY OF SCIENCE

SENIOR THREE

CHEMISTRY

1. Suggest ways the knowledge of chemistry can be used to combat the corona virus problem (15 marks)
2. (a) With examples, define
 - I. A hydrocarbon
 - II. A functional group
 - III. A saturated organic compound
 - IV. An unsaturated organic compound
 - V. An alkene(b) Name the following hydrocarbons
 - (i) CH_3CH_3 (ii) $\text{CH}_2=\text{CH}_2$ (iii) $\text{CH}\equiv\text{CH}$(c) State one reagent that can be used to distinguish between hydrocarbon (i) and hydrocarbon (ii) . State what is observed when each of the hydrocarbon is treated with the reagent named.
- (d) Describe with the aid of a well labeled set up of apparatus how a dry sample of carbon dioxide gas can be prepared in the lab (your answer should include the procedure, diagram and equation)

BIOLOGY

1. (a) Explain how the action of muscles causes carbon dioxide to pass from the lungs into the atmosphere
(b) How does oxygen move from the air in alveoli into body tissues?
(c) How are respiratory surfaces adapted to their functions?

PHYSICS

1. What is the difference between Weight and Upthrust with reference to floatation
b) Explain why a living person is able to swim without sinking
c) A block of wood weighs 5N in air and 1N when immersed in water. Calculate the loss in weight
- 2 Define refraction of light. ii) Explain what causes refraction
b) A monochromatic light is incident on air glass interface at an angle of 30° .calculate the angle of refraction($n_g=1.52$, $n_a=1.00$)
c) Describe the mode of operation of a slide projector.
- 3.a) What is meant by the term Inertia?
b) Explain what happens when a man jumps out of a moving boat.
c) Draw a suitable graph for a stone falling from a certain height.

S.3 AGRIC QUESTIONS:

1. In what ways has the corona virus epidemic affected Agricultural production in Uganda?
2. Explain the negative and positive ways how technology has affected agricultural production in Uganda.