

**FREE**VIRTUAL MOCK EXAMINATION (5)  
MAY 2020  
INTEGRATED SCIENCE  
ESSAY and OBJECTIVE  
2 HOURS

**2 & 1**

Name: .....

Index Number.....

## **GB ASSESSMENT TEST (GBAT)**

**FREE** VIRTUAL MOCK EXAMINATION (5)

**May 2020**

**INTEGRATED SCIENCE 2 &1**

**2 hours**

*All answers must be provided on clean sheet of papers (Answer booklet).*

Write your name and index number on the sheets.

This examination consists of two papers. Answer Paper 2 which comes first, in your answer booklet and Paper 1 on your Objective Test answer sheet. Paper 2 will last for 1 hour 15 minutes and is in two parts; **I & II**. Answer all questions in part I and any other **four** questions in part II.

Answer all questions in your answer booklet.

Credit will be given for clarity of expression and orderly presentation of materials.

***DESIST FROM REFERING TO BOOKS BEFORE PROVIDING ANSWERS***

***#COVID-19. STAY HOME. STAY EDUCATED.***

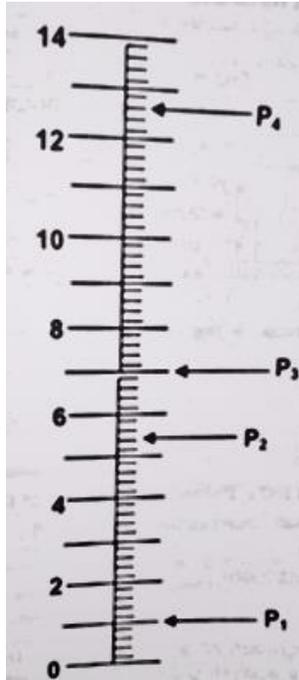
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## INTEGRATED SCIENCE 2

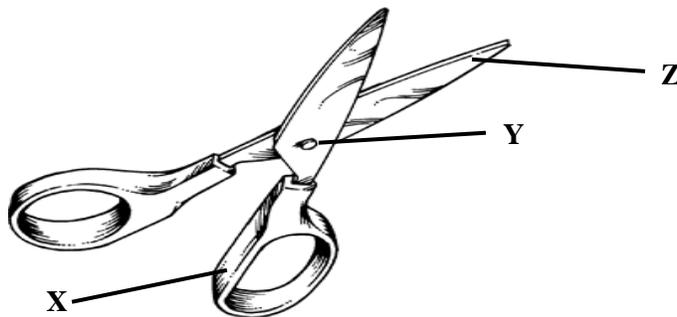
This paper is in two parts; **I & II**. Answer all questions in part I and any other **four** questions in part II.

### PART I

1. (a) Using a universal indicator, a student measured the pH values of distilled water, vinegar, dilute sodium hydroxide solution and concentrated tetraoxosulphate (VI) acid. The pH values  $P = P_1, P_2, P_3$  and  $P_4$  which were obtained are displayed on the vertical scale below.



- Read and enumerate each of the pH values  $P = P_1, P_2, P_3$  and  $P_4$ . [2 marks]
  - Match each of the pH values  $P = P_1, P_2, P_3$  and  $P_4$  against the appropriate liquid. [4 marks]
  - What observations would you make if red litmus paper and blue litmus papers are dipped in turns into each liquid? [4 marks]
- (b) Study the diagram below carefully and answer the questions that follow

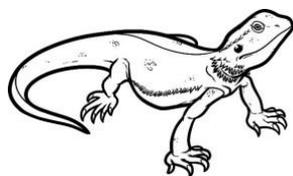


- Identify the load, effort and pivot of the simple machine above. [3 marks]
- What type of simple machine is illustrated above [2 marks]
- Give an example and one use of any other simple machine. [2 marks]

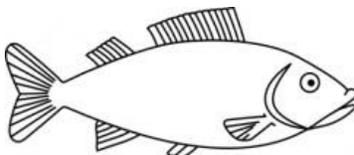
iv. Explain the difference between a fixed and movable pulley

[3 marks]

(c) Study carefully the specimen illustrated below and answer the questions that follow.



A



B



C

i. Identify specimen A, B, and C.

[3 marks]

ii. What is the habitat of specimen B and C.

[2 marks]

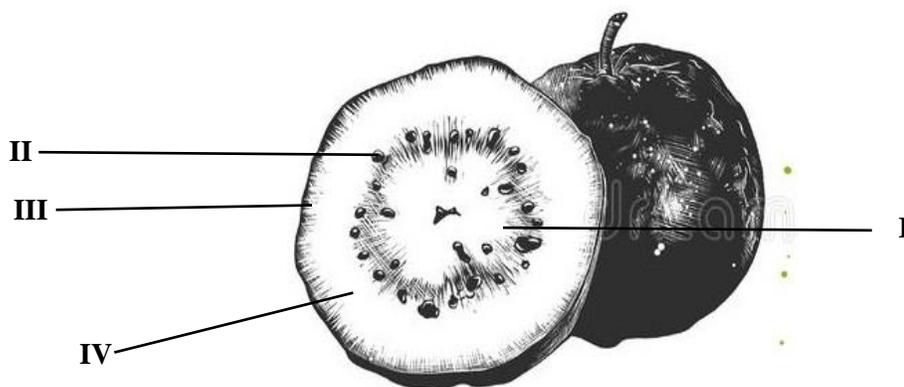
iii. State three features of specimen B that enables it to live successfully.

[3 marks]

iv. State two adaptive features of specimen C that enables it to live in water.

[2 marks]

(d) The diagram below is an illustration of longitudinal section of a fruit. Study it carefully and answer the questions that follow.



i. α State the type of fruit illustrated

β. Name one fruit which has its parts similar to the one illustrated

[3 Marks]

ii. Name the parts labeled I, II, III and IV.

[4 Marks]

iii. State any two (2) features that make the dispersal of the fruit possible.

[3 Marks]

## PART II

Answer only **four (4)** questions from this part

2. (a) i. In what **four (4)** ways is the liver important as a digestive organ?

ii. Mention **two (2)** roles of hydrochloric acid in digestion.

[3 marks]

(b) i. What is filtration?

ii. List **two (2)** examples of mixtures that can be separated by filtration.

iii. Explain what will happen when seawater is left in the sun to dry.

[5 marks]

(c) Explain the role of the following features in a thermos flask

- i. presence of cork
- ii. absence of medium
- iii. presence of vacuum. [4 marks]
- iv. shiny silvered surfaces of the double wall

- (d) i. State **three (3)** differences between clay and sand.
- ii. List **three (3)** inorganic components of the soil. [3 marks]

3. (a) i. Explain the importance of the following devices in household wiring:

- α. fuse
- β. earthing
- γ. switch.

ii. Mention **two (2)** uses of capacitors in an electrical circuit. [4 marks]

(b) i. Describe how pollination takes place in an insect-pollinated flower

ii. Are flowers of a flamboyant plant bisexual or unisexual? Explain. [4 marks]

(c) i. State **three (3)** uses of the hoe as a farming tool.

ii. Name **three (3)** other common farming tools. [3 marks]

(d) i. Give **two (2)** differences between sublimation and condensation.

ii. State **three (3)** factors which affect the rate of evaporation of a liquid. [4 marks]

4. (a) i. What is a base?

ii. State **three (3)** characteristics of a base.

iii. Why are organic acids mostly used for foods? [5 marks]

(b) i. State **four (4)** uses of protein in the body.

ii. Proteins cannot get directly into our blood. Why? [4 marks]

(c) List **two (2)** industrial products each of the following agricultural raw materials:

i. Cocoa beans

- ii. Palm oil [4 marks]
- (d) i. State **two (2)** properties of magnets.
- ii. Give **two (2)** ways of demagnetizing magnets. [2 marks]
5. (a) State **two (2)** methods each of controlling mosquitoes at the:
- i. pupal stage.
- ii. adult stage. [4 marks]
- (b) i. What is a p-n junction diode?
- ii. Explain the difference between forward bias and reverse bias [4 marks]
- (c) i. Give **two (2)** harmful effects of weevils in crop production.
- ii. State **two (2)** ways of controlling weevils on the farm [4 marks]
- (d) i. What is a saturated solution?
- ii. Describe how you can prepare a saturated salt solution in the laboratory. [3 marks]
6. (a) i. Name **three (3)** organisms which cause crop diseases.
- ii. List **three (3)** methods of transmission of crop diseases. [3 marks]
- (b) i. Give **four (4)** harmful effects of smoking on humans.
- ii. State **four (4)** causes of heart diseases [4 marks]
- (c) i. State **three (3)** harmful effects of air pollution.
- ii. Give **three (3)** ways we can reduce air pollution [3 marks]
- (d) i. State the **two (2)** laws of reflection.
- ii. Draw a well labeled diagram to show the reflection of light in a plane mirror. [5 marks]

***END OF ESSAY***

Answer **all** the questions.

Each question is followed by **four** options lettered A to D. Find the correct option for each question and shade **in pencil** on your answer sheet the space which bears the same letter as the option you have chosen. Give only **one** answer to each question.

1. Soil that has all the air spaces filled with water is known as
  - A. waterlogged
  - B. airtight
  - C. wet soil
  - D. clayey
2. Metals that rust must necessarily have an element of ..... in them.
  - A. iron
  - B. water
  - C. oxygen
  - D. aluminium
3. Which of the following is an ideal solvent for fat?
  - A. Alcohol
  - B. Water
  - C. Benzene
  - D. Petrol
4. The function of the fallopian tubes is
  - A. to produce eggs or ovaries
  - B. to transport the egg from the ovary to the uterus.
  - C. to accommodate a growing foetus
  - D. to protect the vagina from infections
5. Which of the following substances turns blue litmus paper red?
  - A.  $\text{Ca}(\text{OH})_2$
  - B.  $\text{NaCl}$
  - C.  $\text{H}_2\text{SO}_4$
  - D.  $\text{KOH}$
6. In drying of fish, the process that takes place is
  - A. dehydration
  - B. osmosis
  - C. diffusion
  - D. capillarity
7. An open circuit is a circuit in which
  - A. the current path is continuous
  - B. the current path is saturated
  - C. the current path is not continuous
  - D. the current path is parallel
8. Which of the following is a two-dimensional figure?
  - A. Rectangle
  - B. Cube
  - C. Cuboid
  - D. Pyramid
9. The image formed by a pinhole camera is
  - I- real
  - II- inverted
  - III- diminished
  - IV- virtual
  - A. I and II only
  - B. I, II and III
  - C. II and IV only
  - D. I, II, III and IV
10. The standard body temperature of human beings is
  - A.  $45^\circ\text{C}$
  - B.  $37^\circ\text{C}$
  - C.  $28^\circ\text{C}$
  - D.  $100^\circ\text{C}$
11. Heaping of soil around the bases of vegetables crops is termed as
  - A. composting
  - B. earthing up
  - C. bedding
  - D. green manuring
12. Which of the following is not a disease of the circulatory system?
  - A. Varicose vein
  - B. Cholera
  - C. Leukaemia
  - D. Stroke
13. One of these is not necessary for germination to take place.
  - A. oxygen
  - B. water
  - C. warmth

- D. light
14. An athlete has mass of 20kg. He runs at a velocity of 2m/s. Calculate his kinetic energy.
- A. 10J  
B. 40kg  
C. 10kg  
D. 40J
15. The property of light to travel in a straight line is termed as
- A. illumination  
B. reflection of light  
C. rectilinear propagation of light  
D. refraction of light
16. In which of the following soils does water drain through more quickly?
- A. Clay  
B. Silt  
C. Sand  
D. Loam
17. Brass is an alloy of
- A. copper and tin  
B. tin and zinc  
C. copper and zinc  
D. copper and steel
18. Goitre is a deficiency disease of
- A. fats  
B. iodine  
C. salt  
D. protein
19. The instrument used to measure atmospheric humidity is
- A. barometer  
B. hydrometer  
C. hygrometer  
D. humid meter
20. The wheel barrow is an example of which type of lever?
- A. Second class  
B. Third class  
C. First class

- D. Fourth class
21. Which part of the blood transports oxygen from the lungs to the cells?
- A. White blood cells  
B. Platelets  
C. Phagocytes  
D. Red blood cells
22. Water boils at a temperature of
- A. 50K  
B. 373K  
C. 100K  
D. 500K
23. The main product of aerobic respiration is
- A. oxygen  
B. carbon dioxide  
C. energy  
D. water
24. A cation is .....
- A. a positively charged atom  
B. a negatively charged ion  
C. a negatively charged atom  
D. a positively charged ion
25. Wearing of protective goggles prevents what type of hazard?
- A. Corrosion of the skin  
B. Injury to the eye  
C. Slipping and breaking bones  
D. Inhaling of poisonous gases
26. A living cell can be seen with
- A. our naked eye  
B. a telescope  
C. a microscope  
D. a periscope
27. Which of the following statements is true about mixed cropping?
- A. Different crops are grown at different times  
B. Different crops are grown at the same time

- C. Different crops are grown on different lands at the same time  
 D. One type of crop is grown on different lands.
28. Brine is a mixture of  
 A. sand and water  
 B. alcohol and water  
 C. alcohol and salt  
 D. salt and water
29. Mineral matter as a soil component is formed by a process known as  
 A. mulching  
 B. erosion  
 C. weathering  
 D. soil profile
30. Pressure.....  
 A. decreases with depth  
 B. is inversely proportional to depth  
 C. increases with depth  
 D. is not equal in all directions
31. The rise of water through the pores of soil is termed as  
 A. soil water holding capacity  
 B. soil capillarity  
 C. soil porosity  
 D. soil structure
32. We normally *see* lightning before we *hear* the sound of thunder because  
 A. sound travels faster than light  
 B. that is the law of nature  
 C. light travels faster than the sound of light  
 D. sound is not visible.
33. The by-product of photosynthesis is  
 A. oxygen  
 B. carbon dioxide  
 C. nitrogen  
 D. glucose
34. Osteoporosis is a disease caused by insufficient ..... in diet.
- A. vitamins  
 B. calcium  
 C. roughage  
 D. protein
35. Muddy water is an example of  
 A. solid in liquid mixture  
 B. solid in solid mixture  
 C. liquid in gas mixture  
 D. liquid in liquid mixture
36. The energy possessed by a mango fruit hanging on a tree is  
 A. potential energy  
 B. kinetic energy  
 C. mechanical energy  
 D. chemical energy
37. Human beings consume both plants and other animals. This makes them  
 A. omnivores  
 B. carnivores  
 C. herbivores  
 D. scavengers
38.  $2\text{Na} + \text{Cl}_2 \longrightarrow \dots\dots\dots$   
 A.  $\text{NaCl}_2$   
 B.  $\text{NaCl}$   
 C.  $\text{NaCl}_3$   
 D.  $2\text{NaCl}$
39. Veins .....  
 A. carry deoxygenated blood back to the heart  
 B. carry oxygenated blood back to the heart  
 C. carry blood away from the heart  
 D. keep our bones hard and strong
40. What would happen if frictional force was not existent in the world?  
 A. Objects would move less freely  
 B. The earth would stop rotating  
 C. All objects will be cold  
 D. All objects would be in constant motion



