

GHANA EDUCATION NEWS (GEN MOCK)

GM032 MOCK J 2022

INTEGRATED SCIENCE 1 & 2

1 HR, 45 MINS



Name.....

Index Number.....

GHANA EDUCATION NEWS (GEN MOCK)

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GHANA EDUCATION NEWS MOCK – JUNE 2022 EDITION .

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PERFORMANCE BOOSTER - MOCK NUMBER 2

JUNE 2022

INTEGRATED SCIENCE

1 hour

Do not open this booklet until you are told to do so. While you are waiting, read and observe the following instructions carefully. Write your name and index number in ink in the spaces provided above.

*This booklet consists of two papers; **I** and **II**. 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 after which the answer book let will be collected. Do not start Paper until you are told to do so. Paper 1 will last 45 minutes.*



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TURN OVER

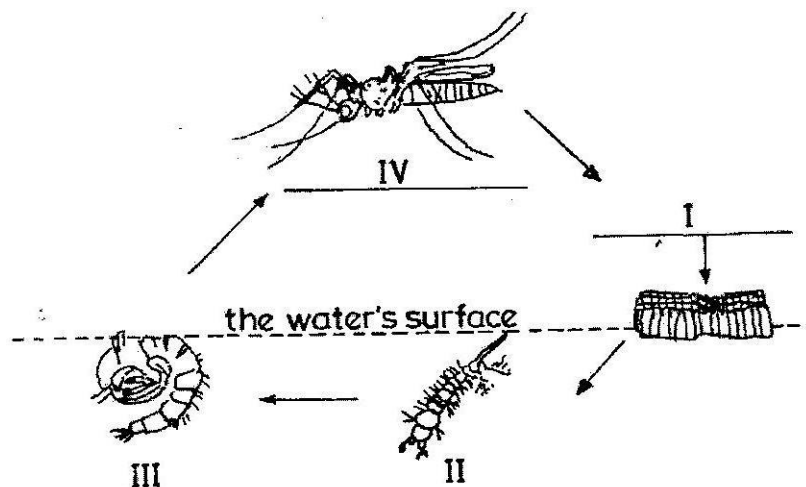
PART I

[40 marks]

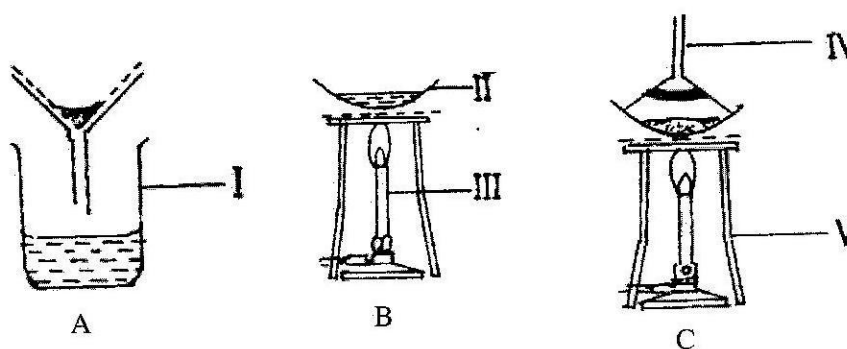
Answer **all** of Question 1

1. (a) The diagrams below represent the stages in the life cycle of a mosquito

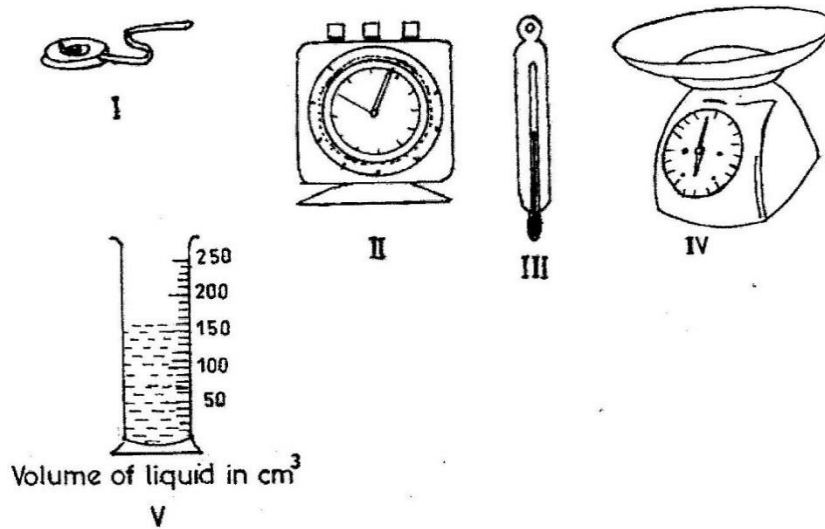
Study the diagrams carefully and answer the questions that follow



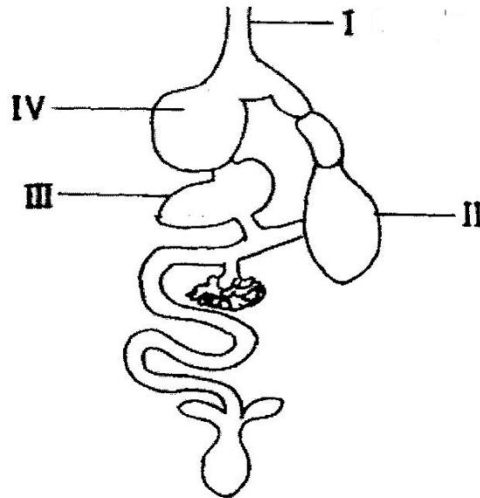
- (i) Name **each** of the stages labeled **I, II, III** and **IV**
(ii) State how stage **II** obtains oxygen
(iii) State **two** methods of controlling **each** of the stages labeled **III** and **IV**
- (b) The diagrams below are different laboratory set-ups used in the separation of mixtures.
Study the diagrams carefully and answer the questions that follow



- (i) Name **each** of the parts labeled **I, II, III, IV** and **V**.
(ii) Name the separation method represented by **each** diagram.
(iii) Which of the set-ups is used to obtain clear water from muddy water?
(iv) Which of the set-ups is used to obtain salt from salt solution?
- (c) The diagrams below show some instruments used in the laboratory.
Study the diagrams carefully and answer the questions that follow



- (i) Identify **each** of the instruments labeled **I, II, III, IV** and **V**
 - (ii) State **one** use of **each** of the instruments labeled **I, II, III** and **IV**
 - (iii) Read and record the volume of the liquid in the instrument labeled **V**
- (d) The diagram below shows the digestive system of a class of farm animals.
Study the diagrams carefully and answer the questions that follow



- (i) Name **each** of the parts labeled **I, II, III** and **IV**
- (ii) State **one** function **each** of the parts labeled **II** and **IV**
- (iii) Name **two** farm animals that possess this type of digestive system.
- (iv) Mention **two** diseases which affect this class of farm animals.

[10 marks]

PART II
[60 marks]

Answer **four** questions only from this part.

2. (a) (i) Name the **two** elements that combine to form water.
(ii) Write a balanced chemical equation to show how the water is formed from the named elements
- (b) State **two** ways of maintaining a balance in an ecosystem.
- (c) (i) What is a *fertile soil*?
(ii) State **two** factors that cause loss of soil fertility.
- (d) Classify the following items as *magnetic* or *non-magnetic* substance:
wood, steel blade, rubber and glass jar.
3. (a) (i) What is *germination of seed*?
(ii) State **two** conditions necessary for the germination of seed.
- (b) State **four** methods used in identifying farm animals
- (c) Explain why it is easier to cut a piece of yam with a sharp knife than with a blunt knife
- (d) State **three** differences between a *metal* and a *non-metal*.
4. (a) (i) What is *debeaking*?
(ii) Give two reasons why debeaking in poultry birds is important.
- (b) (i) A steel needle carefully placed on the surface of water floats. What type of force made the steel needle to float?
(ii) Name **three** substances that could be added to the water to make the steel needle to sink.
- (c) (i) Explain why gold is preferred to iron in the making of jewelleryes.
(ii) State **one** way of preventing rusting.
- (d) (i) State **two** elements of climate
(ii) Name the equipment used to measure **each** of the elements stated in (i) above.
5. (a) (i) What is *refraction of light*?

- (ii) Sketch a diagram to show the path of a light ray when it travels from air to glass.
- (b) Explain why it is difficult to separate iron and sulphur mixture after strong heating.
- (c) (i) Give **two** example of digestive enzymes produced in humans.
(ii) For **each** of the enzymes given in (i), name the part of the human body where the enzyme is produced.
- (d) List **four** methods of applying fertilizers to crops.
6. (a) Consider the substance listed below:
carbon dioxide, gold, bronze, iron, oxygen and ink
- From the list, select the substance that:
- (i) supports burning
(ii) is used as jewellery;
(iii) is used for making statues
- (b) (i) Name **two** diseases associated with the circulatory system of humans.
(ii) State **one** way of preventing **each** of the diseases named in (i)
- (c) Give two examples of **each** of:
- (i) **major** plant nutrients;
(ii) **minor** plant nutrients.
- (d) (i) State **two** properties of a good thermometric liquid.
(ii) Give **two** examples of a good thermometric liquid.

OBJECTIVE TEST – 45 MINUTES

- Which of the following types of teeth is used by mammals to tear food material?
 - Canines
 - Incisors
 - Molars
 - Premolars
- The eclipse formed when the moon comes between the sun and the earth is known as
 - annular eclipse
 - lunar eclipse
 - solar eclipse
 - total eclipse
- The element with the chemical symbol **S** is
 - silicon
 - silver
 - sodium
 - sulphur
- The term leaching in soils refers to
 - accumulation of organic matter
 - decomposition of plant material.
 - fixation of nitrogen
 - removal of soil nutrients by water.
- Which of the following statements about a plant cell is **correct**? It
 - does not have a nucleus
 - contains large vacuoles
 - is surrounded by the cell membrane only
 - does not have a definite shape
- An example of a *derived quantity* is
 - length
 - mass
 - temperature
 - volume
- Solid non-metals normally break into pieces when hammered because they are
 - brittle
 - ductile
 - lustrous
 - malleable

8. Young rabbits are called
- A. bunnies
 - B. cubs
 - C. fingerlings
 - D. kids
9. Producers in an ecosystem are plants that
- A. attract insects
 - B. feed on other plants
 - C. feed on dead materials
 - D. manufacture their own food.
10. The form of energy produced from the nucleus of an atom is termed
- A. chemical energy
 - B. mechanical energy
 - C. nuclear energy
 - D. thermal energy
11. Which of the following elements is a semi-metal?
- A. Carbon
 - B. Nitrogen
 - C. Silicon
 - D. Sodium
12. A system of farming that leads to continuous destruction of virgin forest is
- A. mixed farming
 - B. mixed cropping
 - C. pastoral farming
 - D. shifting farming
13. The by-products of respiration are
- A. carbon dioxide and heat
 - B. carbon dioxide and water
 - C. oxygen and heat
 - D. oxygen and water.
14. Which of the following statements about a force are **correct**? It
- I is measured in newtons
 - II is measured in newton-metre
 - III can start a motion
 - IV can change the direction of a moving body.
- A. I and II only
 - B. I and III only

- C. I, III and IV only
 - D. I, II, III and IV
15. Which of the following substances is a solid-gas mixture?
- A. Lather
 - B. Bronze
 - C. Steel
 - D. Smoke
16. Weeds on a school farm could be controlled by
- A. handpicking
 - B. mowing
 - C. ploughing
 - D. tilling
17. An example of a non-living tissue used in osmosis experiment is
- A. cellophane
 - B. filter paper
 - C. potato
 - D. polythene
18. Kerosene is poured on the surface of a pond in order to
- A. make it unsafe for human consumption
 - B. make it safe for animal consumption
 - C. increase the surface tension
 - D. break the surface tension
19. Which of the following processes is used to separate insoluble solids from liquids?
- A. Crystallization
 - B. Evaporation
 - C. Filtration
 - D. Sublimation
20. The process of removing unproductive poultry birds from a flock is referred to as
- A. candling
 - B. culling
 - C. dehorning
 - D. drenching
21. Which of the following pairs of diseases can be spread easily when food is exposed to houseflies?
- A. Dysentery and malaria
 - B. Malaria and tuberculosis
 - C. Dysentery and cholera
 - D. Cholera and tuberculosis

22. The pressure in fluids
- A. acts differently in all directions
 - B. acts upwards at any point
 - C. decreases with depth
 - D. increases with depth
23. Which of the following processes involve a change in the state of matter from liquid to solid?
- A. Beans
 - B. Bread
 - C. Cabbage
 - D. Egg
24. Which of the following food items contains the **highest** amount of dietary fibre?
- A. Beans
 - B. Bread
 - C. Cabbage
 - D. Egg
25. An example of a disease vector is
- A. earthworm
 - B. liver fluke
 - C. tapeworm
 - D. tick
26. Which of the following devices is made of semiconductor?
- A. Capacitor
 - B. Inductor
 - C. Resistor
 - D. Transistor
27. Which of the following statements about the properties of water are **correct**? It
- I. is colourless and tasteless
 - II. is neutral to litmus paper
 - III. turns red litmus paper blue
 - IV. is a universal solvent
- A. I and II only
 - B. I and III only
 - C. I, II and IV only
 - D. I, III and IV only

28. The study of the soil profile of an area helps the farmer to
- control weed growth
 - determine the soil temperature
 - determine the types of crop to grow.
 - know the pesticides to use.
29. When a green leaf is placed in a test tube containing ethanol and heated over a water bath the leaf
- becomes soft
 - changes colour to brown
 - changes colour to blue-black
 - is decolourized.
30. Which of the following sources of energy is / are renewable?
- Solar
 - Crude oil
 - Wind
- I only
 - I and II only
 - I and III only
 - I, II and III
31. Which of the following substances is a compound?
- Hydrogen
 - Nitrogen
 - Oxygen
 - Water
32. A disease-causing organism that is **most** difficult to control in crop production is
- bacterium
 - fungus
 - nematode
 - virus
33. Which of the following organisms is/ are multicellular?
- Amoeba
 - Paramecium
 - Onion
- I only
 - III only
 - I and III only
 - II and III only

34. In electronic circuits, LEDs are used to indicate the absence or presence of
- A. emitter and collector
 - B. electric current
 - C. p-n junction
 - D. voltage source.
35. Steel is an alloy of iron and
- A. aluminium
 - B. carbon
 - C. silicon
 - D. gold
36. Soil aeration could be improved through
- A. mulching
 - B. irrigation
 - C. soil drainage
 - D. fertilizer application
37. Which of the following pairs of structures are part of the respiratory system of humans?
- A. Fallopian tube and alveoli
 - B. Pharynx and oesophagus
 - C. Trachea and alveoli
 - D. Trachea and duodenum
38. Which of the following effects is **not** a result of illegal connection of electricity? It can
- A. lead to fire outbreak
 - B. lead to frequent power cut-off
 - C. increase the flow of current in the supply chain.
 - D. cause damage to electrical appliance
39. Which of the following statements about the scientific method is / are **correct**? It provides
- I. logical procedure for arriving at knowledge.
 - II. knowledge that can be verified
 - III. knowledge that can never be changed
- A. I only
 - B. I and II only
 - C. I and III only
 - D. II and III only
40. An entrepreneur's decision as to what to produce is a/ an
- A. co-ordinating function
 - B. organizing function
 - C. planning function

D. supervising function.

END OF ESSAY TEST