

03404/2&1 BECE

June 2026

SCIENCE 2&1

Essay and Objective

2 hours 10 minutes

2&1

Name

- ❖ TOPIC BASE, MOCK & PAST QUESTIONS
- ❖ NOTES
- ❖ SYLLABUS
- ❖ CHIEF EXAMINERS' REPORT
- ❖ LESSON NOTES
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THE WEST AFRICAN EXAMINATIONS COUNCIL GHANA

Basic Education Certificate Examination

June 2026

SCIENCE 2&1
ESSAY AND OBJECTIVE

2 hours 10 minutes

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. Answer Paper 2 which comes first, in your answer booklet and Paper 1 on your Objective Test answer sheet. Paper 2 will last 1 hour 25 minutes after which the answer booklet will be collected. Do not start Paper 1 until you are told to do so. Paper 1 will last 45 minutes.

Answer all the questions in your answer booklet.

This paper is in two sections: A and B. Answer Question 1 in Section A and any other three questions in Section B.

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

SECTION A

[40 marks]

Answer all the questions in this section.

1. (a) Figure 1(a) is an illustration of three types of domestic farm animals. Study the figure carefully and answer the questions that follow.

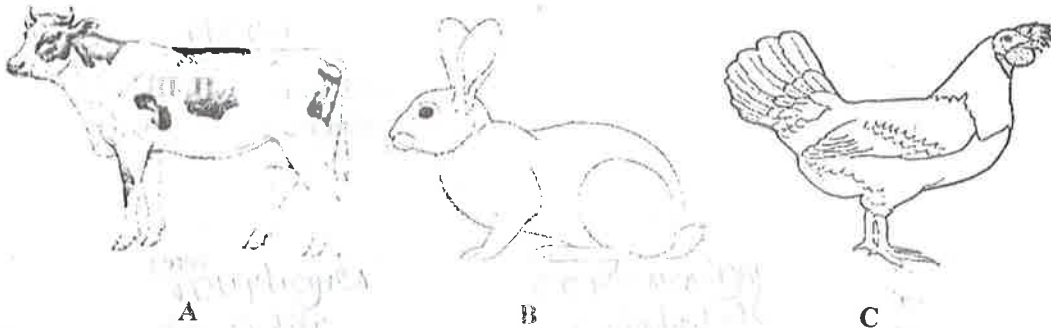


Figure 1(a)

- (i) Mention one type of feed given to each of the animals labelled A, B and C.
(ii) Name one nutrient each from the types of feed mentioned in (i).
(iii) Give one function each of the nutrient named in (ii).
(iv) Which of the animals in Fig. 1(a) can be classified as a ruminant?

[10 marks]

- (b) Figure 1(b) is an illustration of the respiratory system of humans. Study the figure carefully and answer the questions that follow.

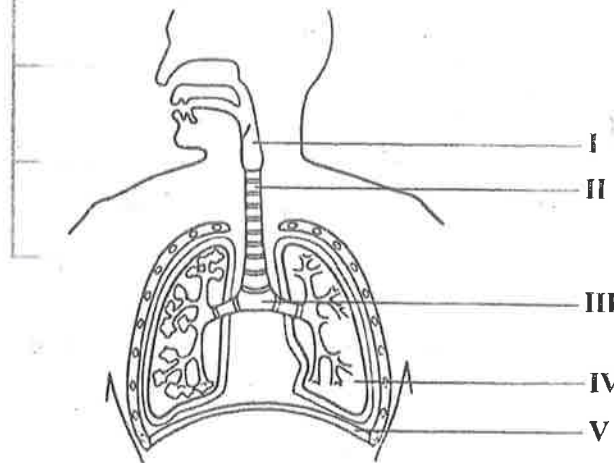
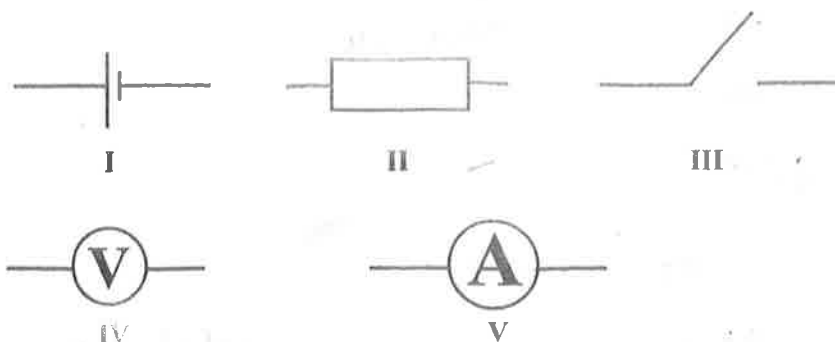


Figure 1(b)

- (i) Name the parts labelled I, II, III, IV and V.
(ii) Give one function each of the parts labelled II, III and V.
(iii) Name the most important gas during the process of respiration that is:
(α) used by the body;
(β) brought out from the body.

- (c) The diagrams below are illustrations of circuit symbols of electric components used to investigate the relationship between *potential difference* and *electric current*. Study the diagrams carefully and answer the questions that follow.



- Name the symbols labelled II, III and IV.
- Draw a circuit diagram using all the symbols labelled I, II, III, IV and V.
- If the circuit is closed and V reads 5 units with IV reading 15 units, determine the value of II in S.I. units.

[10 marks]

- (d) A number of acid, base and salt solutions of different pH values were prepared in test tubes labelled A, B, C, D and E. The table below shows the pH and the corresponding colours of **each** solution on addition of three drops of universal indicator.

<i>Solution</i>	<i>Content</i>	<i>pH of solution</i>	<i>Colour of universal indicator</i>
A	0.1 mol dm ⁻³ HCl	—	Red
B	0.1 mol dm ⁻³ CH ₃ COOH	5	Orange
C	0.1 mol dm ⁻³ NaCl	—	—
D	0.1 mol dm ⁻³ NH ₃	9	Blue
E	0.1 mol dm ⁻³ NaOH	—	Violet

- Identify the solution that would have a pH value equal to:
 - 7;
 - 14.
- Identify the solution that can be classified as a/an:
 - strong acid;
 - neutral;
 - weak base.
- Suggest the pH value of solution A.
- Identify **two** solutions in the table that will react to form salt and water.
- What would be the colour of solution C upon addition of drops of universal indicator.

[10 marks]

SECTION B

[60 marks]

Answer three questions only from this section.

2. (a) Give **two** examples of **each** of the following types of diseases of humans:
- Fungal disease;
 - Deficiency disease;
 - Non-communicable disease.
- [6 marks]
- (b) Explain the following terms:
- Homogeneous mixture;
 - Heterogeneous mixture.
- [4 marks]
- (c) (i) Explain **briefly** why dragging an object on a smooth surface is easier than on a rough surface.
- (ii) Name the S.I. unit of
- force,
 - work.
- [5 marks]
- (d) (i) What is a *balanced ration* in poultry feed?
- (ii) Give **three** effects of malnutrition in poultry.
- [5 marks]
3. (a) (i) A **simple** electric circuit is made up of a cell, resistor and a bulb. State the observation that will be made when the number of
- cells is doubled,
 - bulbs is doubled.
- (ii) Explain the observations stated in (i).
- [4 marks]
- (b) Explain **briefly** how the following factors affect vegetable crop production:
- soil type;
 - nearness to source of water;
 - nearness to market.
- [6 marks]
- (c) Explain **briefly** the following interactions in an ecosystem:
- Mutualism;
 - Commensalism.
- [4 marks]
- (d) (i) Distinguish between the following chemical substances:
- Element and compound;
 - Molecule and ion.
- (ii) Write the chemical formula of **each** of the following binary compounds:
- Aluminium fluoride;
 - Ammonia.
- [6 marks]

4. (a) Name **two**
- micro-nutrients of plants,
 - macro-nutrients of plants.
- [4 marks]
- (b) Name the component of the circulatory system that performs **each** of the following functions:
- transport of nutrients;
 - protection of the body against infection;
 - temperature regulation.
- [3 marks]
- (c) State **three** effects of poor waste management on human health.
- [3 marks]
- (d) (i) Differentiate between *a colloid* and *a suspension*.
 (ii) Classify the following mixtures as **solution, colloid or suspension**:
- Groundnut paste and water;
 - Milk and water;
 - Sugar and water.
- [5 marks]
- (e) (i) What is *work output*?
 (ii) Explain how work output affects the efficiency of a machine if work input is fixed.
- [5 marks]
- (a) (i) An atom of an element is represented as ${}^{17}_{8}X$. Determine the number of
- Protons,
 - Electrons,
 - Neutrons.
- (ii) State the position of the element *X* in (i) on the periodic table in terms of
- Group,
 - Period.
- [5 marks]
- (b) (i) Explain **briefly** heat transfer by conduction.
 (ii) Name **two** other methods of heat transfer.
- [5 marks]
- (c) (i) Give **two** examples of water bodies.
 (ii) State **two** practices of humans that destroy water bodies.
 (iii) State **two** methods of conserving water bodies.
- [6 marks]
- (d) (i) State **three** ways by which bacterial diseases are managed.
 (ii) Give an example of a bacterial disease.
- [4 marks]

END OF ESSAY TEST

DO NOT TURN OVER THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

**YOU WILL BE PENALIZED SEVERELY IF YOU ARE
FOUND LOOKING AT THE NEXT PAGE BEFORE
YOU ARE TOLD TO DO SO.**

WHILE YOU ARE WAITING, READ THE FOLLOWING INSTRUCTIONS CAREFULLY

PAPER 1
OBJECTIVE TEST
[40 marks]

45 minutes

1. Use 2B pencil throughout.
2. On the pre-printed answer sheet, check that the following details are correctly printed:
 - (a) In the space marked Name, check your **surname** followed by your **other names**.
 - (b) In the spaces marked *Examination, Year, Subject and Paper*, check 'BECE', '2026', 'SCIENCE', and '1' respectively.
 - (c) In the box marked Index Number, your index number has been printed vertically in the spaces on the left-hand side, and **each** numbered space has been shaded in line with **each** digit. **Reshade** each of the shaded spaces.
 - (d) In the box marked *Subject Code*, the digits 034012 are printed vertically in the spaces on the left-hand side. **Reshade** the corresponding numbered spaces as you did for your index number.
3. An example is given below. This is for a male candidate whose name is James Koku SEIDU. His *index number* is 7102143958 and he is offering *Science 1*.

THE WEST AFRICAN EXAMINATIONS COUNCIL ANSWER SHEET

PRINT IN BLOCK LETTERS	
Name: SEIDU JAMES KOKU	GHA
Examination: BECE	Year: 2026
Subject: SCIENCE	Paper: 1

INSTRUCTIONS TO CANDIDATES 1. Use grade 2B pencil throughout. 2. Answer each question by choosing one letter and shading like this: <input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D 3. Erase completely any answer you wish to change. 4. Leave extra spaces blank if the answer spaces provided are more than you need. 5. Do not make any markings across the heavy black marks at the right hand edge of your answer sheet.

INDEX NUMBER										
7	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9
1	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9
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2	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9
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SUBJECT CODE										
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For Supervisors only If candidate is absent shade this space
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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 answer space which bears the same letter as the option you have chosen. Give only one answer to each question. An example is given below.

Which of the following elements reacts with water?

- A. Carbon
- B. Sodium
- C. Sulphur
- D. Iodine

The correct answer is Sodium which is lettered B and therefore answer space B would be shaded.

A B C D

Think carefully before you shade the spaces; erase completely any answer you wish to change.

Do all rough work on this question paper.

Now answer the following questions.

1. Hand trowel is used in farming to
 - A. level soil surface.
 - B. remove weeds.
 - C. turn manure during compost making.
 - D. transplant seedlings.
2. An example of a simple lever which has its effort at the centre is
 - A. a bottle opener.
 - B. a pair of scissors.
 - C. the beam balance.
 - D. a pair of forceps.
3. Which of the following practices is not a cultural practice in crop production?
 - A. Nursing
 - B. Pest control
 - C. Weeding
 - D. Mulching
4. The most suitable tool for transplanting vegetable seedlings is the
 - A. hoe.
 - B. cutlass.
 - C. hand trowel.
 - D. hand fork.
5. An example of an inclined plane is a
 - A. flat road surface.
 - B. see-saw.
 - C. pulley.
 - D. path of a hill.
6. Which of the following statements about noble gases is correct? They are
 - A. charged gases.
 - B. monoatomic molecules.
 - C. very reactive.
 - D. diatomic molecules.

7. Oxygen gas is represented by the chemical symbol O_2 . This symbol represents two
- molecules of oxygen.
 - atoms of oxygen.
 - ions of oxygen.
 - elements of oxygen.
8. Mosquitoes **cannot** breed in a
- pool.
 - swamp.
 - pond.
 - river.
9. The transistor in an electronic device is used
- as a switch
 - for amplifying alternating signals
 - in preventing overheating in electric irons
- I only
 - I and II only
 - I, II and III
 - I and III only
10. The bottom of a pool of water appears closer to the surface than it is. Which of the following properties accounts for this observation?
- Reflection
 - Transparency of water
 - Rectilinear propagation
 - Refraction
11. The force that results when a comb is rubbed through dry hair is
- magnetic force.
 - frictional force.
 - gravitational force.
 - electrostatic force.
12. Which of the following types of human teeth is used for biting food?
- Incisors
 - Canines
 - Molars
 - Premolars
13. The gas evolved when a small piece of sodium is dropped into a beaker containing water is
- carbon dioxide.
 - hydrogen.
 - chlorine.
 - oxygen.
14. A student who was accidentally trapped in a cupboard died because
- only nitrogen was left in the cupboard.
 - the greater part of oxygen in the cupboard was used up.
 - carbon dioxide run short in the cupboard.
 - all the air in the cupboard was used up.

15. The energy transformation that takes place in electric pressing iron is
- electrical energy \rightarrow potential energy.
 - electrical energy \rightarrow sound energy.
 - electrical energy \rightarrow chemical energy.
 - electrical energy \rightarrow heat energy.
16. The combining powers of sodium and oxygen atoms are 1 and 2 respectively. The chemical formula of a stable compound formed between them is
- NaO
 - Na₂O
 - NaO₂
 - Na₂O₂
17. Which of the following methods are used in making magnets?
- Induction
 - Stroking
 - Hitting
- I and II only
 - I and III only
 - I, II and III
 - II and III only
18. The **hardest** part of the tooth is the
- enamel.
 - dentine.
 - cement.
 - pulp.
19. Which of the following substances contains natural acid?
- Vinegar
 - Wood ash
 - Saliva
 - Bile
20. The chemical component of milk of magnesia is
- calcium hydroxide.
 - potassium hydroxide.
 - sodium hydroxide.
 - magnesium hydroxide.
21. Which of the following foods contains the **greatest** amount of protein?
- Cheese
 - Plantain
 - Mushroom
 - Yam
22. Two atoms of the same element with symbols $^{12}_6X$ and $^{14}_6X$ differ by their
- electron numbers.
 - proton numbers.
 - atomic numbers.
 - neutron numbers.

23. The force that opposes motion is
- magnetic force.
 - gravitational force.
 - frictional force.
 - electrostatic force.
24. In order to maintain soil fertility, a farmer should **not** practice
- crop rotation.
 - continuous cropping.
 - consistent manuring.
 - fertilizer application.
25. The ways of conserving electrical energy include
- putting off electrical appliances when not in use
 - ironing clothes one at a time
 - ironing clothes in bulk
- I only
 - II only
 - I and III only
 - I and II only
26. In which of the following systems does the farmer rely on animals in case of crop failure?
- Crop rotation
 - Mixed farming
 - Organic farming
 - Mixed cropping
27. The recommended floor space per bird in a poultry house is 0.6 m^2 . Determine the number of layers that would occupy a poultry house of an area of 72 m^2 .
- 40
 - 72
 - 300
 - 120
28. What is formed when the path of light rays is blocked by an opaque object?
- Echo
 - Shadow
 - Penumbra
 - Umbra
29. Green plants have the ability to make their own food hence they are known as
- producers.
 - parasites.
 - decomposers.
 - consumers.
30. Which of the following human activities maintains the balance of nature?
- Pollution
 - Deforestation
 - Afforestation
 - Mining

31. Which of the following methods could conserve soil water on a farm?
- I. Adequate spacing
 - II. Disease control
 - III. Cover cropping
- A. I and II only
 - B. I and III only
 - C. I, II and III
 - D. II and III only

32. Which of the following planets are closer to the sun than the earth?
- A. Venus and Mars
 - B. Venus and Mercury
 - C. Venus and Saturn
 - D. Mercury and Mars

Use the information on the simple food chain below to answer question 33.

Cassava → Rat → Snake → Hawk

33. The primary consumer is the
- A. cassava.
 - B. rat.
 - C. hawk.
 - D. snake.
34. The appropriate apparatus for the separation of a mixture of water and kerosene is
- A. separating funnel.
 - B. filter funnel.
 - C. condenser.
 - D. evaporating dish.
35. A hazardous substance that may be emitted from car exhaust fumes is
- A. CO_2
 - B. CO
 - C. H_2
 - D. H_2O
36. The best method of preventing teenage pregnancy is to
- A. use a pill.
 - B. avoid having sex.
 - C. practise safe sex.
 - D. have only one sexual partner.
37. The linear sequence of feeding relationship among living things is called
- A. food web.
 - B. food chain.
 - C. producer.
 - D. ecology.
38. Which of the following statements about photosynthesis is correct?
- A. It occurs in the presence of light energy.
 - B. Oxygen is the main product.
 - C. Plants obtain water from the atmosphere to make food.
 - D. Leaves without chlorophyll are able to photosynthesize.

39. The stage of development between childhood and adulthood in humans is known as
- A. adolescence.
 - B. infancy.
 - C. teenage.
 - D. puberty.
40. Which of the following statements is **true** of anions? They contain
- A. more protons than neutrons.
 - B. more protons than electrons.
 - C. the same number of protons and neutrons.
 - D. less protons than electrons.

END OF PAPER