

1

Name. _____

Index Number _____

**BEST BRAIN EXAMINATIONS KONSORTIUM
GHANA**

Special Private Mock Examinations For BECE Candidates

INTEGRATED SCIENCE 2 & 1

2 hours

Essay and Objective

*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 15 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.*

PAPER 2
ESSAY
[100 marks]

1 U4 hours

This paper is in **two sections: A and B**. Answer Question 1 in section A and any other four questions in section B.

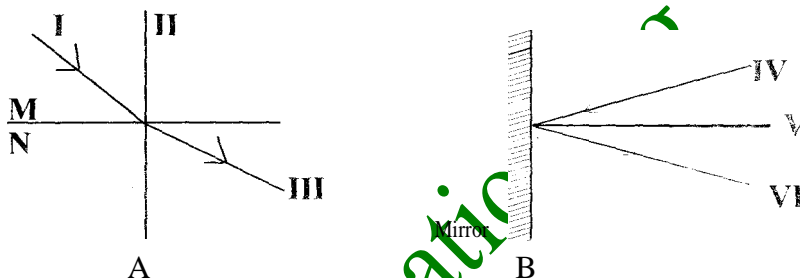
Answer all the questions in your answer booklet.

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

SECTION A
[40 marks]

Answer all of Question 1

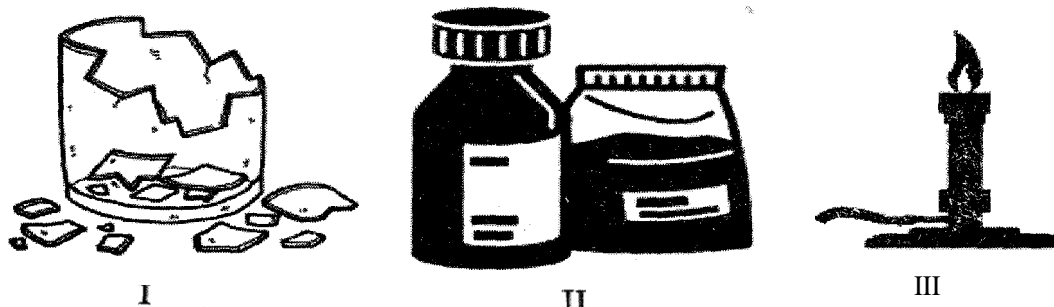
- (a) Below is an illustration of two different properties of light.
Study the diagrams below carefully and answer the questions that follow.



- (i) Name and explain each of the phenomenon illustrated as end B. [2 marks]
(ii) In what way is medium M different from medium N? [2 marks]
(iii) Name the labeled parts indicated as I, II, III, IV, V. [3 marks]
(iv) State the two laws associated with B. [2 marks]
(v) Explain why an object at the bottom of a pond appears closer to the surface than it actually is. [1 mark]

- (b) The diagrams below are illustrations of some hazardous substances in the laboratory.

Study the diagrams carefully and answer the questions that follow.



- (i) Explain why the above substances are hazardous. [1 mark]
(ii) Identify the substances labelled I, II and III and give the hazard associated with each. [3 marks]

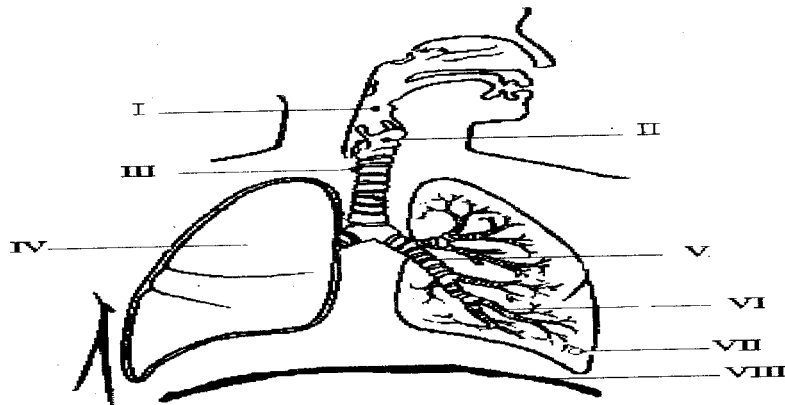
- (iii) In what **two** ways can you prevent the hazard associated with I? [2 marks]
- (iv) State **two** safety precautions against the hazardous material II. [2 marks]
- (v) State **two** safety precautions against the hazardous material III. [2 marks]

(c) The table below illustrates a farming system practiced by a farmer. Study the table carefully and answer the questions that follow.

SEASON	Season 1	Season 2	Season 3	Season 4
PLOT	Maize	Maize	Maize	Maize

- (i) Name and explain the farming system being practiced above. [2 marks]
- (ii) State **two** advantages of the system being practiced by the farmer. [3 marks]
- (iii) State **two** disadvantages of the system being practiced by farmer. [3 marks]
- (iv) Mention **two** factors that influence the type of farming system practiced in a community. [2 marks]

(d) The diagram below shows a system in the human body. Study the diagram carefully and answer the following questions.



- (i) Identify the human body system. [2 marks]
- (ii) State the role of the system in supplying the body with energy. [2 marks]
- (iii) Identify the parts labeled I, II, III, IV, V, VI, VII and VIII. [4 marks]
- (iv) State the changes that occur in the part labelled VIII as a person breathes in and breathes out, respectively. [2 marks]

SECTION B

[60 marks]

Answer **four** questions **only** from this section

2. (a) Explain the following stages in the life cycle of a flowering plant:
- (i) Germination;
 - (ii) Pollination;
 - (iii) Fertilization.

[3 marks]

Turn over

- (b) Explain four cultural practices that are carried out in the nursery. [4 marks]
- (c) (i) What is a biodigester? [1 mark]
(ii) Name **four** waste substances which can be used in the biodigester. [3 marks]
- (d) Name four examples of chemical changes in everyday life. [4 marks]
3. (a) State four principles involved in vegetable crop production. [4 marks]
- (b) Give **three** characteristics of a plant cell. [3 marks]
- (c) State four properties of the liquid state of matter. [4 marks]
- (d) (i) Explain the term *rectilinear propagation of light*. [2 marks]
(ii) Give two effects of rectilinear propagation of light. [2 marks]
4. (a) Give the use of each of the following apparatus in the laboratory:
(i) Conical flask; [1 mark]
(ii) Funnel; [1 mark] [4 marks]
- (b) (i) State two roles of producers in an ecosystem. [2 marks]
(ii) State two roles of primary consumers in an ecosystem. [2 marks]
- (c) (i) Name four methods of processing vegetables. [2 marks]
(ii) State two reasons for processing vegetables. [2 marks]
- (d) State the energy transformations that occur when:
(i) an LPG gas stove is being used to cook; [1 mark]
(ii) the sun is shining on a metal bench; [1 mark]
(iii) a cell phone is ringing [1 mark] [3 marks]
5. (a) (i) What is a cell? [1 mark]
(ii) Use a bird, decayed plants, eagles, and worms to construct a food chain. [3 marks]
- (b) (i) State two reasons why loamy soil is best for crop production. [2 marks]
(ii) Give two benefits of living organisms in the soil. [2 marks]
- (c) Give **three** reasons why melting of ice is a physical change. [3 marks]
- (d) (i) State two properties of images formed by a pin-hole camera. [2 marks]
(ii) Mention two properties of images formed by a plane mirror. [2 marks]
6. (a) (i) What is a light emitting diode? [1 mark]
(ii) Explain why a reverse biased light emitting diode will not emit light. [2 marks]
- (b) (i) Name four common air pollutants and give one source of each. [2 marks]
(ii) Mention two harmful effects of air pollutants. [2 marks]
- (c) (i) State two disadvantages of shifting cultivation. [2 marks]
(ii) Give four benefits of crop rotation. [2 marks]
- (d) Mention **four** adaptive features of a weaver bird to its environment. [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**

INTEGRATED SCIENCE 1
[40 marks]

45 minutes

*While you are waiting, read and observe the following instructions.
Answer Paper 1 on your Objective Test answer sheet. Do not start paper 1 until you are
told to do so. Paper 1 will last 45 minutes.*

1. Use **2B** pencil throughout
2. On the pre-printed answer sheet, check that the following details are **correctly** printed:
Your **surname** followed by your **other names**, the *Subject Name*, your *Index Number*,
Centre Number and the *Paper Code*.
3. In the boxes marked *Candidate Number*, *Centre Number* and *Paper Code*, **reshade** each of
the shaded spaces.
4. An example is given below. This is for a candidate whose name is Seyram Babanawo. Her
index number is 772384188 and she is writing the examination at Centre Number 77234.
She is offering *Integrated Science 1* and the *Paper Code* is 4510.

BEST BRAIN EXAMINATION KONSORTIUM SPECIAL PRIVATE MOCK FOR BECE CANDIDATES OBJECTIVE ANSWER SHEET.

CANDIDATE NAME: <p style="text-align: center;">SEYRAM BABANAWO</p>	SUBJECT: <p style="text-align: center;">INTEGRATED SCIENCE</p>
---	---

- | | |
|--|---|
| 1. Use HB Pencil Press firmly
2. Answer each question by choosing one letter and then, shade through the letter chosen like this
<p style="text-align: center;">[A] <input checked="" type="checkbox"/> [C] [D] [E]</p> 3. If you want to change an answer, rul out your | First mark completely
4. If only four alternative answers are given for each question, ignore the letter E
5. Your question paper may have fewer than 60 Questions. |
|--|---|

CANDIDATE NUMBER								
7	7	2	3	8	4	1	8	
[0]	[0]	[0]	[0]	[0]	[0]	[0]	[0]	
[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	
[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	
[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	
[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	
[5]	[5]	[5]	[5]	[5]	[5]	[5]	[5]	
[6]	[6]	[6]	[6]	[6]	[6]	[6]	[6]	
[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	
[8]	[8]	[8]	[8]	[8]	[8]	[8]	[8]	
[9]	[9]	[9]	[9]	[9]	[9]	[9]	[9]	

CENTRE NUMBER				
8	7	2	3	4
[0]	[0]	[0]	[0]	[0]
[1]	[1]	[1]	[1]	[1]
[2]	[2]	[2]	[2]	[2]
[3]	[3]	[3]	[3]	[3]
[4]	[4]	[4]	[4]	[4]
[5]	[5]	[5]	[5]	[5]
[6]	[6]	[6]	[6]	[6]
[7]	[7]	[7]	[7]	[7]
[8]	[8]	[8]	[8]	[8]
[9]	[9]	[9]	[9]	[9]

PAPER CODE			
4	5		0
[0]	[0]	[0]	[0]
[1]	[1]	[1]	[1]
[2]	[2]	[2]	[2]
[3]	[3]	[3]	[3]
[4]	[4]	[4]	[4]
[5]	[5]	[5]	[5]
[6]	[6]	[6]	[6]
[7]	[7]	[7]	[7]
[8]	[8]	[8]	[8]
[9]	[9]	[9]	[9]

For Supervisors Only.

If candidate is absent shade this space



Answer **all** the questions.

Each question is followed by four options lettered A to D. Find out 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. An example is given below.

The element with the chemical symbol Si is

- A. Silver
- B. Silicon
- C. Selenium
- D. Sodium

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

A _____

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

Do all right work on this paper.

Now answer the following questions

1. A hazard can be correctly described as
 - A. injury as a result of carelessness.
 - B. an unexpected occurrence.
 - C. something that can cause an accident.
 - D. forgetting how to work safely.
2. Which of the following removes carbon dioxide from the atmosphere?
 - A. Respiration
 - B. Burning
 - C. Decomposition
 - D. Photosynthesis
3. When matter changes from gas to liquid there is a
 - A. decrease in mass.
 - B. decrease in volume.
 - C. increase in pressure.
 - D. increase in temperature.
4. Which of the following is not an air pollutant?
 - A. Flatulence.
 - B. Noise from vehicles.
 - C. Human breath.
 - D. Cigarette fumes.
5. A shadow is formed by a/an
 - A. opaque object.
 - B. transparent object.
 - C. screen.
 - D. irregular surface.
6. Dark brown or black color of a soil indicates
 - A. a fresh soil.
 - B. a very wet soil.
 - C. a very poor soil.
 - D. a soil rich in humus.

7. Applied sciences do not include
 A. Medicine.
 B. Pharmacy.
 C. Biology.
 D. Engineering.
8. The storage house of a cell is the
 A. nucleus.
 B. mitochondrion.
 C. vacuole.
 D. cell membrane
9. When there is a chemical change,
 A. energy is not transformed.
 B. there is no conservation of mass.
 C. there is temporary change.
 D. energy is created.
10. Respiration provides all living things
 A. water.
 B. air.
 C. food.
 D. energy
11. The most porous soil type is
 A. loam.
 B. clay.
 C. sand.
 D. humus.
12. The cultural practice of spreading dry grass on the soil surface is called
 A. mulching.
 B. staking.
 C. pruning.
 D. earthing up.
13. Vegetables cannot be processed by
 A. blanching.
 B. dehydration.
 C. fermentation.
 D. fertilizing.
14. During anaerobic respiration
 A. no energy is produced.
 B. lactic acid is produced.
 C. carbon dioxide is produced.
 D. oxygen is produced.
15. One reason why melting of ice is said to be a physical change is because
 A. solid changes to liquid.
 B. the change can be reversed.
 C. there is change in mass.
 D. it involves great heat change.
16. In an ecosystem, primary consumers are
 A. green plants.
 B. herbivores.
 C. carnivores.
 D. omnivores.
17. The tool used for stirring the SSH is
 A. shovel.
 B. garden fork.
 C. hoc.
 D. cutlass.
18. When the dialysis of the hand is rubbed together, kinetic energy is changed to
 A. solar energy.
 B. thermal energy.
 C. potential energy
 D. light energy
19. Which of the following is a renewable source of energy?
 A. Nuclear power
 B. Fossil fuel
 C. Hydropower
 D. Crude oil.
20. One disease of the respiratory system is
 A. diabetes.
 B. blood cancer.
 C. covid 19.
 D. constipation.
21. The tissues found on some plants are used for
 A. absorbing water from the air.
 B. breathing.
 C. protection.
 D. photosynthesis.
22. All the following organisms belong to an aquatic habitat except
 A. sea weed.
 B. tilapia.
 C. weaver bird.
 D. whale.
23. The fish is adapted for movement in its habitat by having a
 A. streamlined shape.
 B. round eyes.
 C. flat body.
 D. spherical shape.

Turn over

24. If a green ball is denser than a white ball of the same size, the green ball has
 A. less volume.
 B. more volume.
 C. more matter in the same space.
 D. less matter in the same space.
25. 184g of a stone with a volume of 50cm³ has a density of
 A. 9200gcm³.
 B. 3.68gcm³.
 C. 0.271gcm³.
 D. 3.7gcm³.
26. The hazard with carbon monoxide is
 A. inflammable.
 B. toxic.
 C. corrosive.
 D. explosive.
27. A sandy soil has the characteristic of
 A. holding a lot of water.
 B. being poorly aerated.
 C. being rich in humus.
 D. draining water quickly.
28. The surface area of a triangular meat pie with base 15 cm and height 12cm is
 A. 27 cm².
 B. 90 cm².
 C. 60 cm².
 D. 21 cm².
29. A wind-pollinated flower has
 A. lots of nectar.
 B. a sticky stigma.
 C. no nectar.
 D. a feathery stigma.
30. Technology is useful to man in
 A. solving practical problems.
 B. producing dangerous weapons.
 C. cooking everything we can eat.
 D. causing deforestation.
31. The testa of a living seed
 A. protects the inner parts.
 B. helps the seed to breathe.
 C. is the young root or shoot.
 D. provides food to the seed.
32. Knowledge of density is not important in
 A. determining the purity of substances.
 B. the floating of ships on water.
 C. operation of sub-marines.
 D. transferring solutions.
33. The unit of measurement of electric current is
 A. volts.
 B. amperes.
 C. joules.
 D. watts.
34. The ease with which air and water circulate in the soil determines its
 A. porosity.
 B. texture.
 C. structure.
 D. fertility.
35. The most abundant greenhouse gas in the atmosphere is
 A. methane.
 B. nitrogen.
 C. water vapour.
 D. carbon dioxide.
36. When light passes through air into glass, its angle of refraction is
 A. less than its angle of incidence.
 B. same as its angle of incidence.
 C. more than its angle of incidence.
 D. dependent on length of the glass.
37. In lunar eclipse, the earth blocks out the
 A. moon.
 B. sun.
 C. stars.
 D. planets.
38. Stirring of vegetable beds is done to
 A. restore the soil acidity.
 B. improve soil texture.
 C. improve soil aeration.
 D. regulate soil temperature.
39. The diode allows electric current to
 A. flow in no direction.
 B. stop flowing.
 C. flow in one direction.
 D. flow in all directions.
40. An LED produces light when
 A. electric current passes through.
 B. it is touched.
 C. it is switched on.
 D. heat passes through.

END OF PAPER