EDUCATION-NEWS CONSULT – DODOWA, ACCRA
2026 BECE – MOCK 1 EXAMINATION (AUGUST 2025)
MARKING SCHEME FOR SCIENCE

Question 1

a. i. Name of the part labeled on the diagram

I – Abdomen
II – Wings
III – Leg
IV – Thorax ***4 marks @ 1 mark each***

ii. Physical control methods that can be used to reduce the population of the diagram

- Use of fly swatters
- Installation of window and door nets
- Proper waste disposal
- Covering food and water ***2 marks @ 1 mark each for any 2***

iii. Harmful activities of the diagram that negatively affect human health.

- Contaminating food and drinks
- Transferring germs from dirty places to clean areas
- Spreading disease-causing organisms
- Laying eggs on exposed food and waste ***2 marks @ 1 mark each for any 2***

iv. Diseases that can be transmitted or caused by the diagram

- Cholera
- Typhoid fever
- Dysentery
- Diarrhoea ***2 marks @ 1 mark each for any 2***

b. i. Identifying the type of cells labeled A and B:

- Cell A – Prokaryotic cell
- Cell B – Eukaryotic cell ***2 marks @ 1 mark each***

ii. Names of each of the parts labeled I, II, III, IV, V, and VI:

I – Nucleoid
II – Flagella
III – Pili
IV – Vacuole
V – Ribosome
VI – Nucleus ***3 marks @ 0.5 marks each***

iii. Differences between cell A and cell B:

- Cell A has a nucleus, while cell B has a nucleoid without a membrane.
- Cell A contains membrane-bound organelles; cell B does not.
- Cell A is generally larger in size than cell B.

- Cell A is more complex in structure, while cell B is simpler. ***2 marks @ 1 mark each for any 2***

iv. Similarities between cell A and cell B:

- Both have ribosomes for protein synthesis.
- Both have cytoplasm.
- Both possess a cell membrane.
- Both can carry out life processes like growth and reproduction. ***3 marks @ 1 mark each for any 3***

(c) **i. What method of magnetization is demonstrated above?**

Electrical method of magnetization. ***1 mark***

ii. **List two substances that can be made into a magnet**.

- Iron
- Steel ***2 marks @ mark each***

iii. **State two other methods of making magnets.**

- Induction method
- Stroking method ***4 marks @ 2 marks each***

iv. **Name one material that is used in making an electrical wire.**

- Copper ***1 mark***

v. **Two properties of the material mentioned in (iv) which makes it useful as a wire.**

- Copper is a good conductor of electricity
- Copper is malleable. ***2 marks @ 1 mark each.***

(d) **i. Suggest a suitable title for the experiment above.**

An experiment to demonstrate water holding capacity of sandy, loamy and clayey soil

OR

An experiment to demonstrate drainage ability of sandy, loamy and clayey soil

OR

An experiment to compare the porosity or permeability of sandy, loamy and clayey soil

2 marks for any 1

ii. **State three observations you can make from the set-up.**

- Sandy soil (diagram I) drains water quickly.
- Loamy soil diagram III) has moderate drainage ability.
- Clayey soil (diagram II) retains water for a longer time.
- Water infiltration is slower in clayey soil (diagram II) compared to sandy (diagram I) and loamy soil (diagram III). ***1 mark each × any 3 = 3 marks***

iii. **Explain why the levels of water are different in the set-up.**

The different levels of water in the experiment demonstrate the varying drainage abilities of sandy, loamy, and clayey soil due to differences in their porosity and permeability. Sandy soil (diagram I), with its larger particle size, allows water to drain quickly through its spaces. Loamy soil (diagram III), with a balanced mixture of sand, silt, and clay, has moderate drainage capacity. Clayey soil (diagram II), with its fine particles and compact structure, retains water for a longer time and drains slowly. ***3 marks***

iv. **What conclusion could be drawn from the results of the experiment?**

The conclusion drawn from the experiment could be that sandy soil (diagram I) has the highest drainage ability, loamy soil (diagram III) has moderate drainage ability, and clayey soil (diagram II) has the lowest drainage ability. This conclusion is based on the observation of the different water levels in each type of soil after water is added and allowed to drain. **2 marks**