ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Advanced Level

GEOGRAPHY 6037/1

PAPER 1: PHYSICAL COMPONENT

NOVEMBER 2023 SESSION 3 hours

Additional materials:
Answer paper

TIME 3 hours

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces provided on the answer paper/answer booklet.

Answer any **four** questions in this paper.

Write your answers on the separate answer paper provided.
If you use more than one sheet of paper, fasten the sheets together.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part question.

Sketch maps and diagrams should be drawn wherever they serve to illustrate an answer.

You are reminded of the need for good English and clear presentation in your answers.

This question paper consists of 6 printed pages and 2 blank pages.

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*Answer any **four** questions.*

1 **(a)** Explain why temperature in the troposphere decreases with increase in altitude. [6]

(b) Citing examples, discuss the causes and effects of global warming. [12]

(c) Evaluate measures that are taken to improve the quality of air in large cities. [7]

2 **(a)** What is meant by the following terms?

(i) anabatic wind,

(ii) katabatic wind. [6]

(b) Study **Figure 2.1** below and answer the question which follows.

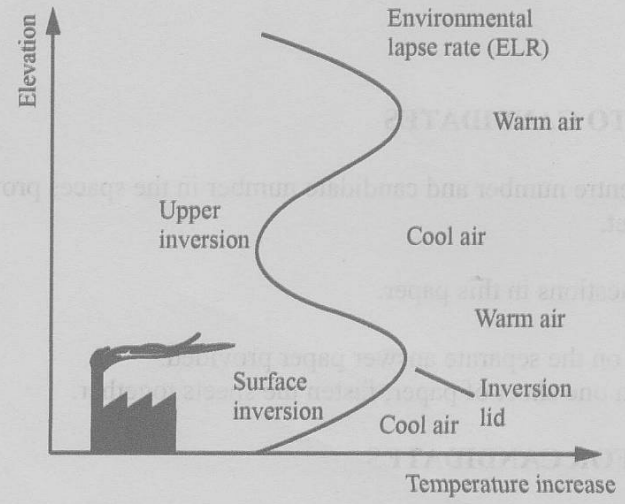


Fig. 2.1

Using **Fig. 2.1** above explain the causes and effects of temperature inversions. [12]

(c) Assess efforts that are made to reduce the effects of heat waves. [7]

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3 **Figure 3.1** below shows temperatures at midnight in an urban area.

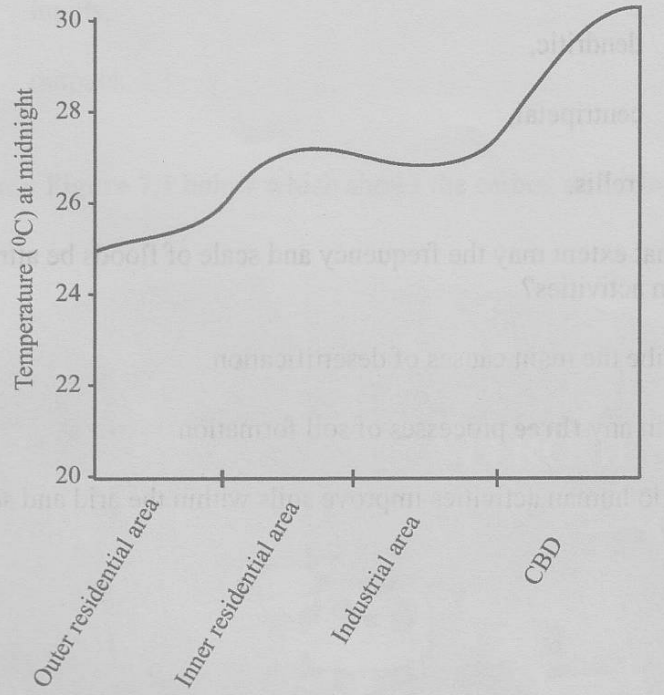


Fig. 3.1

(a) Explain the temperature variations shown on **Fig. 3.1** above. [6]

(b) Explain the extent to which the climate of a large urban area differs from that of the surrounding rural areas. [12]

(c) To what extent do human activities contribute to climate change? [7]

4 **(a)** With the aid of a diagram, describe the characteristics of a hydrograph for an urban area. [6]

(b) Explain conditions leading to river flooding. [12]

(c) With reference to a drainage basin of your choice assess the measures taken to reduce river flooding. [7]

5 **(a)** What is meant by the following terms as they are used in fluvial processes?

(i) drainage pattern,

(ii) stream order. [6]

(b) Use well labelled diagrams to describe the development of the following drainage patterns:

(i) dendritic,

(ii) centripetal,

(iii) trellis. [12]

(c) To what extent may the frequency and scale of floods be attributed to human activities? [7]

6 (a) Describe the main causes of desertification. [6]

(b) Explain any **three** processes of soil formation. [12]

(c) How do human activities improve soils within the arid and semi-arid areas? [7]

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7 **(a)** Define the following terms as they relate to biogeography:

(i) inputs,

(ii) outputs.

[6]

(b) Study **Figure 7.1** below which shows the carbon and nitrogen cycles.

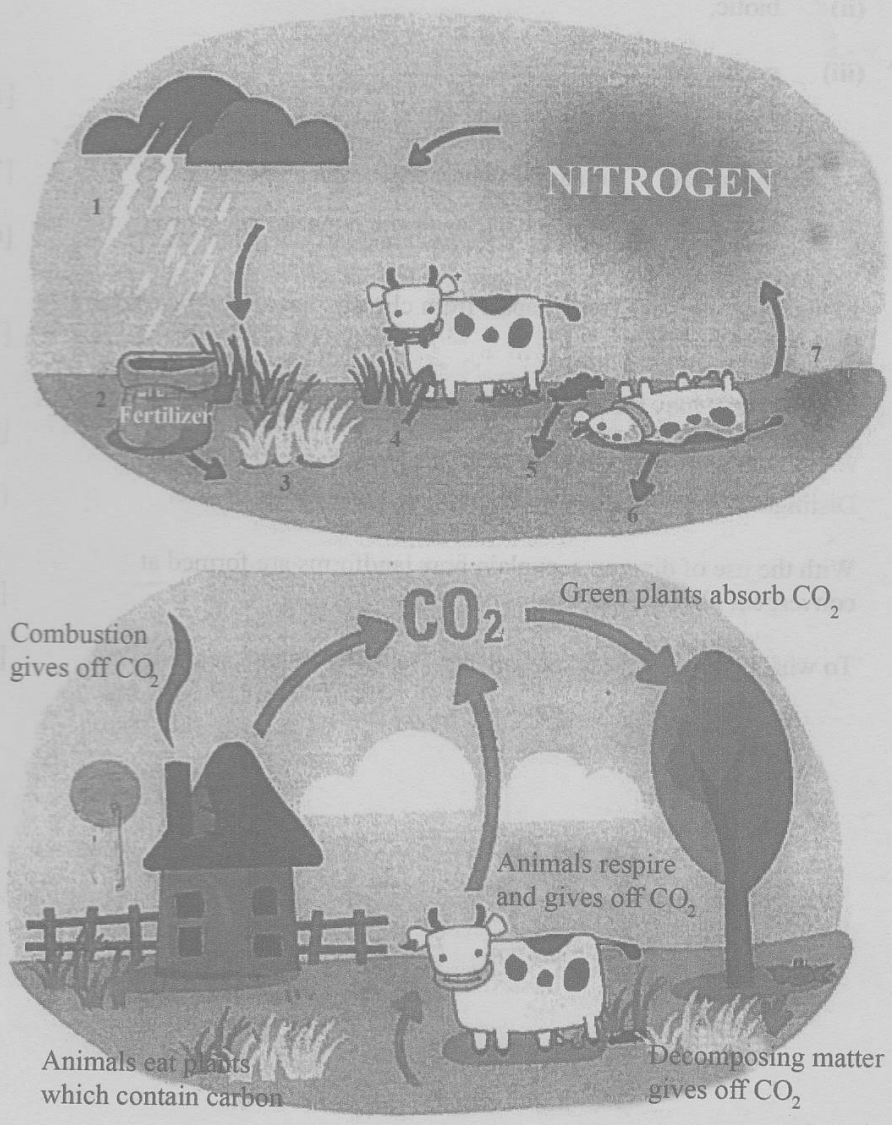


Fig.7.1

Explain the carbon and nitrogen cycles shown in **Fig. 7.1** above. [12]

(c) How may humans influence the nitrogen and carbon cycles? [7]

8 (a) Distinguish between pediplanation theory and etchplanation theory in the development of landforms. [6]

(b) Explain how the conditions below influence the development of deep weathered layers;

(i) climatic,

(ii) biotic,

(iii) geomorphic. [12]

(c) Assess the impact of humans on geomorphological processes. [7]

9 (a) Distinguish between *rock disintegration* and *rock decomposition*. [6]

(b) Explain the physical factors apart from climate that affect the rate and type of weathering. [12]

(c) In what ways may humans benefit from landforms produced by weathering? [7]

10 (a) Distinguish between *continental plate* and *oceanic plate*. [6]

(b) With the use of diagrams, explain how landforms are formed at convergent plate boundaries. [12]

(c) To what extent are mass movements caused by human activities? [7]