ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Advanced Level

GEOGRAPHY 6037/1

PAPER 1 : PHYSICAL COMPONENT

JUNE 2019 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 5 printed pages and 3 blank pages.

[Turn over

*Answer any **four** questions.*

1 **(a)** Give the meaning of

(i) Dry adiabatic lapse rate (DALR)

(ii) Environmental lapse rate (ELR) [6]

Fig.1.1 shows weather conditions.

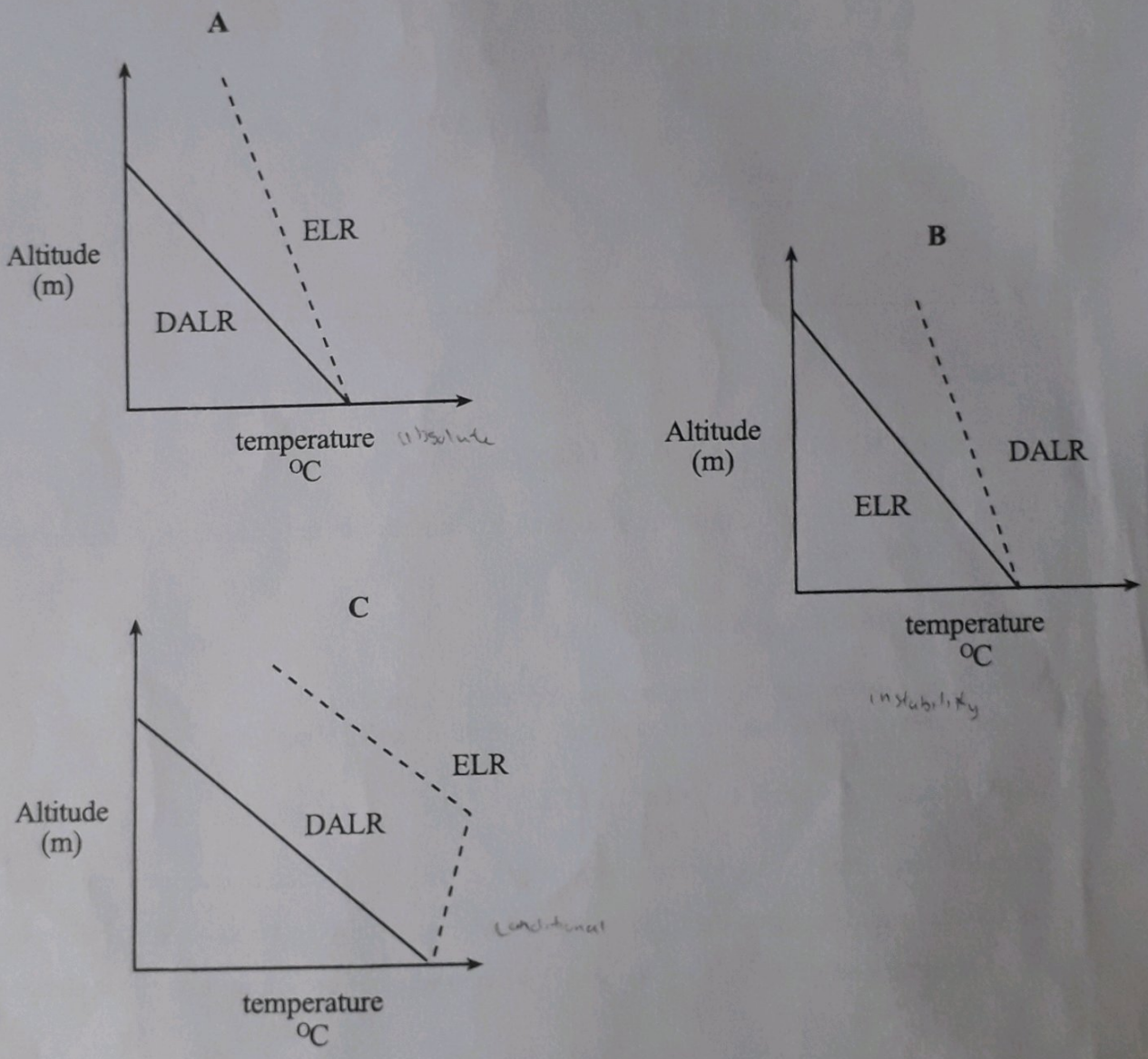

Fig.1.1

(b) Explain the conditions shown and show resultant weather for each of A, B and C. [12]

(c) Evaluate measures that can be taken to reduce ozone depletion. [7]

2 (a) Briefly define the terms *rainfall intensity*, *infiltration capacity* and *stemflow*. [6]

per unit time

(b) Photograph **2.A** below shows components of the drainage basin.

Photo 2.A

(i) Outline the stores shown. [2]

(ii) Explain variations in the rate of interception, overlandflow and infiltration. [10]

(c) Assess the attempts that can be made to reduce the occurrence of floods. [7]

3 (a) Describe albedo as used in climatology. [6]

(b) Explain the effects of EL Nino and La Nina in Zimbabwe. [12]

(c) Assess the conventional methods of climate change adaptation. [7]

4 (a) Draw labelled diagrams to show the ways in which water flows in a river channel. [6]

6 laminar, turbulent, helicoidal

(b) Explain how human and natural factors influence the nature of the rising limb on a storm hydrograph. [12]

(c) Examine the effectiveness of Indigenous Knowledge Systems (IKS) in surveying the occurrence of ground water. [7]

5 (a) Distinguish limestone rock from granite rock. [6]

(b) With the aid of diagrams, explain the exhumation theory and its resultant landforms. [12]

(c) To what extent are granite rocks useful to humans? [7]

6 (a) Distinguish block disintegration from granular disintegration. [6]

(b) Explain any **three** chemical weathering processes. [12]

(c) Examine the influence of human activities on chemical weathering. [7]

7 **Fig.7.1** shows soil open system in a tropical region.

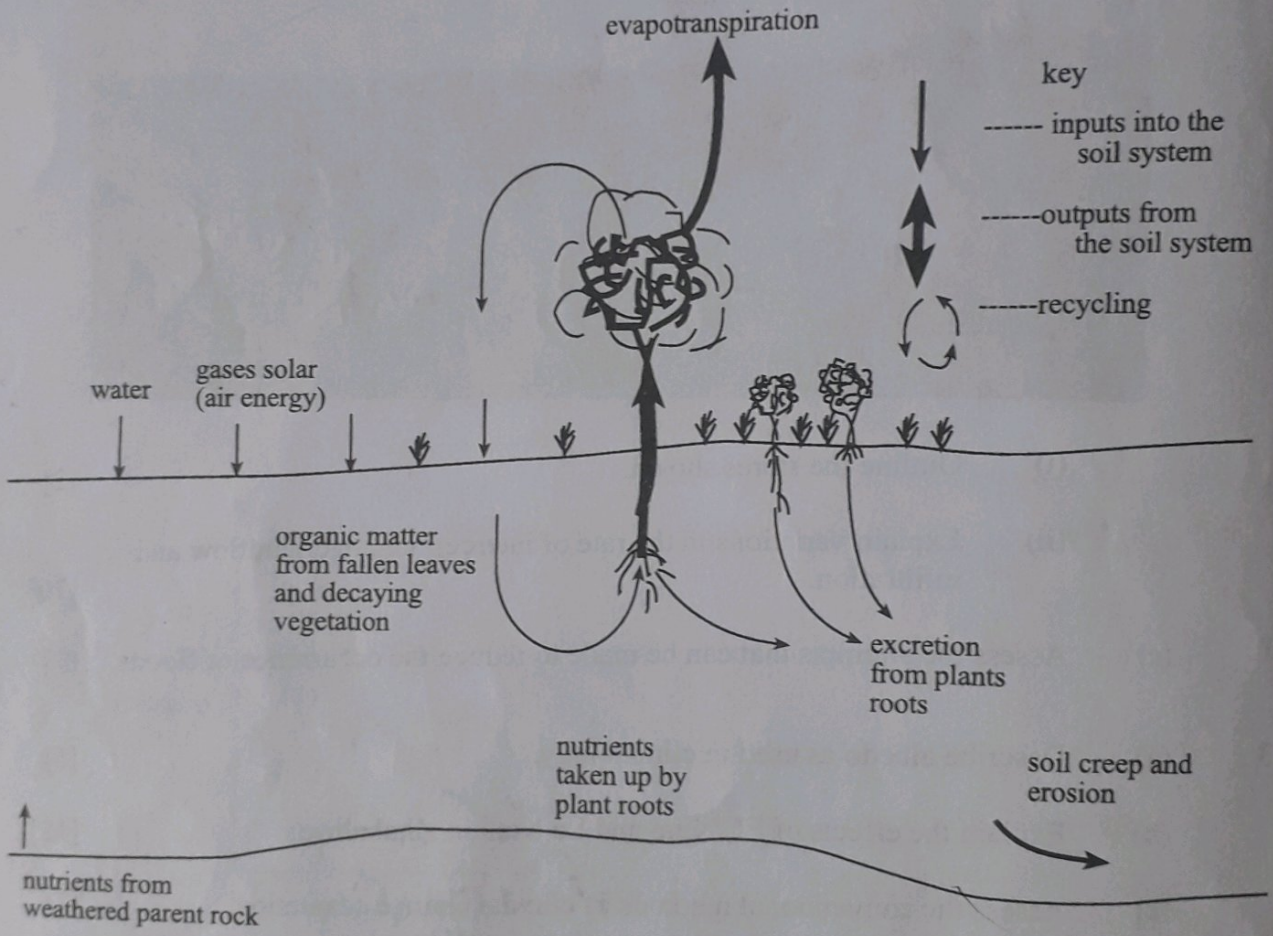

Fig.7.1

(a) Briefly outline the importance of water and air in the soil system. [6]

(b) Using **Fig.7.1** describe soil as an open system with inputs, processes and outputs. [12]

(c) Explain the nature and cause of soil variations within a small area. [7]

8 **(a)** Explain the terms '*Plagio-climax*', '*Psammosere*' and '*Halosere*' [6]

(b) **(i)** Differentiate the structure of the tropical rainforest vegetation from that of the tropical grassland.

(ii) Explain the structure of the tropical rainforest. [12]

(c) To what extent have humans degraded the tropical grassland ecosystem? [7]

9 **(a)** Distinguish constructive plate boundaries from destructive plate boundaries. [6]

(b) Explain any **three** landforms formed at subduction zone. [12]

(c) Assess the measures that can be taken to reduce the impacts of earthquakes. [7]

10 **(a)** Briefly explain the terms *stream morphometry* and *base flow*. [6]

(b) Explain the causes of river floods. [12]

(c) Assess the effectiveness of measures that can be taken to reduce the impacts of river floods. [7]

Human
Streambank
Veldfires
deforestation
thatching
mining
Ploughing along erosion
urbanisation
industrialisation

droughts
Natural fires
floods

(1) hazzard zonationmaps
(2) Resettlement.
(3) Aid provision
(4) Education
(5) Seizmic buildings.
(6) Early warning systems
(7) strong foundation reinforce buildings.

Subduction zone landforms
seafloor spreading
deep ocean trenches
mid oceanic ridges
Island archs.
Volcanic peaks