EXAMINATIONS COUNCIL OF ESWATINI
Junior Certificate Examination

GEOGRAPHY **527/02**

Paper 2 Geographical skills **For examination from 2024**

SPECIMEN PAPER

MARK SCHEME

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{527/02}

This document consists of **9** printed pages.

1 Study the map extract of Muchirakuenda (Zimbabwe). The scale is 1: 50 000. Fig. 1 shows the positions of some features in the north east of the map extract.

(a) Using the map extract, identify the following features shown on Fig. 1:

(i) feature A (0315)

Dip tank/Shopo dip 1 @ 1 = 1

(ii) the name of river B

Dzomutizo 1 @ 1 = 1

(iii) land use at C (0913)

Cultivation 1 @ 1 = 1

(iv) feature D

Power line 1 @ 1 = 1

(v) feature E (0913)

Dam 1 @ 1 = 1

(b) (i) What is the statement scale of the map?

2 cm represents 1 km 1 @ 1 = 1

(ii) What feature is located at grid refence 022087?

Trigonometrical station 1 @ 1 = 1

(iii) State the height of the Nyota hill at grid square 9200.

1559.8 metres 1 @ 1 = 1

(c) Study the course of the Ruya river.

(i) What is the general direction of flow of the river east of easting 06?

North-east 1 @ 1 = 1

(ii) Name any two natural features found along the river.

- Meanders
- Rapids
- Braiding/braided channels
- Confluences 2 @ 1 = 2

(d) Measure the bearing of the spot height at grid square 9605 from the spot height at 8902.

68^0 (67^0 - 69^0) 1 @ 1 = 1

(e) (i) Measure the distance along the gravel road from the bridge at 920052 to where the road ends in the south at 916000.

5.2 km/5200m (5.1km – 5.3km/5100m – 5300m 1 @ 1 = 1

(iii) The bridge is at 1280m and the south end of the road is at 1320m. Calculate the gradient between the two points.

$$\text{Gradient} = \frac{\text{VI}}{\text{HE}}$$

$$= \frac{1320\text{m} - 1280\text{m}}{5200\text{m}}$$

$$= \frac{40\text{m}}{5200\text{m}}$$

$$= \frac{1}{130}$$

130 or 1: 130 or 1 in 130 2 @ 1 = 2

(f) (i) Name the settlement pattern found at grid square 9316.

Nucleated 1 @ 1 = 1

(ii) Give two pieces of evidence to show that mining is carried out in the area near Rosa B.C.

- Mine dump
- Quarry or excavation
- Named mines (max. 1) 2 @ 1 = 2

(iv) State two possible uses of the water from the dams in Muchirakuenda.

- irrigation
- hydro-electric power generation
- recreation
- domestic use (max. 1)
- - industrial use, etc. 2 @ 1 = 2

[Total: 20 marks]

SECTION B – RESEARCH SKILLS

2 A group of students investigated the reasons for the changes in speed across a meander in the Great Usuthu river. They decided to test the following hypothesis: "*The surface velocity of a river varies across a meander*". The teacher suggested that before starting the investigation they should conduct a pilot survey.

(i) Define a pilot survey

- a visit to the area of study before the actual study/preliminary visit/trial study. 1 @ 1 = 1

(ii) Give two advantages of a pilot survey

- test equipment
- check suitability
- familiarize oneself with area of study 2 @ 1 = 2

(b) **(i) List two pieces of equipment the students used to measure the speed of the river**

- Floating object/name
- Tape measure
- Ranging poles
- Stop watch 2 @ 1 = 2

(ii) The students measured the surface speed of the river at four sample sites, **A**, **B**, **C** and **D** across the meander as shown in Fig. 2. The results of their measurements are shown in Table 1.

Use information from Table 1 to complete the bar graph Fig. 3 for site A and Site C.

Correctly drawn bars for A and C 2 @ 1 = 2

(iii) Write a conclusion to the hypothesis, "*The surface velocity of a river varies across a meander*". Use information from Table 1 and Fig. 3.

- Hypothesis is true/correct/accepted
- Table 1 and Fig. 3 show that the speed varies across the meander
- The velocity increases from site A to site D
- In site D speed is 73cm/second and decreases up to 20cm/second in site A
- 3 @ 1 = 3

[Total: 10 marks]

SECTION C – PHYSICAL GEOGRAPHY

3 **(a) Study Fig. 4, which shows two instruments used at a school weather station.**

(i) Identify instruments A and B.

A Six's Thermometer/Maximum and Minimum Thermometer

B Hygrometer/Wet and Dry bulb thermometer 2 @ 1 = 2

(ii) State the element of weather each of the instruments measure.

A Temperature

B Relative humidity/humidity 2 @ 1 = 2

(iii) Name the liquids R and S in instrument A.

R Alcohol

S Mercury 2 @ 1 = 2

(b) Study Fig. 5, which shows a wooden box kept at a weather station.

(i) Give the name of the box shown in Fig. 5.

Stevenson Screen 1 @ 1 = 1

(ii) Using Fig. 5, describe three features of the box.

- Painted white
- Louvred sides
- Ventilators
- Stand 121/125cm (1.2./1.25m) from ground
- Sloping roof
- Door faces south
- White 3 @ 1 = 3

(c) Study Fig. 6, which shows two types of physical weathering

(i) Define the term weathering.

Breaking up of rocks in situ/breaking up of rocks 1 @ 1 = 1

(ii) Identify the types of physical weathering shown as X and Y in Fig. 6.

X. Temperature changes/exfoliation

Y. Frost action/freeze-thaw/frost shattering 2 @ 1 = 2

(iii) State two reasons why chemical weathering is more active in tropical regions.

- Hot/high temperatures - Wet/high rainfall
- Little temperature change - High humidity
- Dense rain forest retain rain water 2 @ 1 = 2

(d) Study Fig. 7, which shows a type of volcano.

(i) Name the type of volcano shown in Fig. 7.

Composite volcano 1 @ 1 = 1

(ii) Identify the parts labelled A and B in Fig. 7.

A Crater

B Conelet/secondary cone/parasitic cone

(iii) State two advantages of volcanic activity.

- Fertile soils
- Minerals
- Hot springs
- Tourist attraction 2 @ 1 = 2

[Total: 20 marks]

SECTION D – POPULATION AND SETTLEMENTS

4 (a) **Study Fig. 8 which shows four possible sites, A, B, C and D for the location of a new farming village.**

(i) Which is the best site for the location of the village?

Site B 1 @ 1 = 1

(ii) Give two reasons for the site you have chosen.

- Grassland with deep soil
- Near a river 2 @ 1 = 2

(iii) Giving a different reason in each case, state why you rejected the other sites.

A – dense forest

C – swamp

D – hilly area with thin soils 3 @ 1 = 1

(b) Study Photograph A, which was taken in an urban area.

(i) Name the part of an urban area where this photograph was taken.

Central Business District/CBD 1 @ 1 = 1

(ii) Using Photograph A, describe two features of the buildings.

- Tall/skyscrapers
- Different heights
- Modern
- Mixture of old and new
- Flat roofs
- Congested
- Bottom mainly glass 2 @ 1 = 2

(iv) State two problems associated with this part of an urban area.

- Crime
- Drug trafficking
- Street kids
- Traffic congestion
- Pollution (max. 1) 2 @ 1 = 1

(c) Study Fig. 9, which shows stages in population growth

(i) What is the name of the graph shown in Fig. 9?

Demographic Transition Model 1 @ 1 = 1

(ii) Using Fig. 9, identify a stage which shows;

A a rapid decline in birth rate.

Stage 3

B a rapid growth of population.

Stage 4 2 @ 1 = 2

(iii) Describe three characteristics of stage 2.

- high birth rate
- rapid fall/decline/decrease in death rate
- rapid growth/increase in population 3 @ 1 = 3

(d) (i) State two reasons why birth rates are high in LEDCs.

- proof of men's virility
- religious beliefs
- traditional beliefs
- children seen as potential labour
- more children to help at old age
- teenage pregnancy/early marriages
- slow/non acceptance of family planning
- polygamy
- desire for boys/sex preference
- low women status
- lack of a population policy
- insurance that if others die others will remain
- high infant mortality rate 2 @ 1 = 2

(ii) Suggest two ways in which birth rates can be reduced in LEDCs.

- Family planning and birth control measures
- Education about the advantages of having smaller families
- Women status should be improved
- Government should pass laws to control the size of families such as one child policy
- Government must also pass laws to control the age of marriage
- Sterilization should be encouraged with some incentives
- Abortion should be legalized
- Polygamy should be abolished
- Sex education can be introduced in schools to prevent teenage pregnancy. 2 @ 1 = 2

[Total: 20 marks]