

*2002*

**ZIMBABWE SCHOOL EXAMINATIONS COUNCIL**

General Certificate of Education Advanced Level

*MID-YEAR MADZVIRE HIGH SCHOOL*  
**GEOGRAPHY** *MID-YEAR 2002* **9056/1**

PAPER 1

*Wednesday 5 NOVEMBER 2002 Afternoon*

*3 HRS*

1:50 000 Survey map extract is enclosed with this question paper  
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 **four** questions.

Answer one question from Section A and **two** questions from Section B.

~~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 have to illustrate an answer.~~

~~You are advised to spend no longer than 45 minutes on Section A.~~

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

This question paper consists of 7 printed pages, 1 blank page and a Survey map extract.

## Section A

Answer one question from this section. You are advised to spend not more than 45 minutes on this question.

- 1 With reference to the map provided (1:50 000, ~~Kwana~~ <sup>BOTELEKWA</sup>, Zimbabwe),
- (a) draw an annotated sketch section showing the main drainage and relief features. ~~between grid pairs A170 and E170~~ [6]
- (b) ~~explain how the landforms along your sketch section might have been formed.~~ <sup>Describe the drainage and relief features of the area</sup> [10]
- (c) discuss the relationship between relief and drainage shown on the whole map extract. [9]
- 2 Table 1 shows downstream changes in river characteristics obtained from five survey points.

Table 1

Characteristics	Survey Points				
	1	2	3	4	5
Gradient	1:8	1:14	1:26	1:45	1:85
Width (m)	1.3	1.6	2.4	4.1	8.3
Depth (m)	0.7	0.1	1.4	1.9	2.6
Discharge (m <sup>3</sup> s <sup>-1</sup> )	13	16	21	28	34
Bedload Size (cm)	25	21	12	7	2
Bedload Shape	Angular	Angular	Sub-angular	Rounded	Rounded

(Source : P. Guinness and G. Nagle - Advanced Geography)

- (a) Describe how the discharge and bedload data shown in the table could have been obtained. [12]
- (b) Describe the changes in the characteristics shown in Table 1. [5]
- (c) Suggest possible reasons for the changes in
- the size and shape of bedload, and
  - the discharge of the river. [3]



## Section B

Answer <sup>two</sup> ~~three~~ questions from this section.

- 3 (a) What do you understand by the term 'heat budget'? [6]
- (b) Outline the factors that cause temperature variations on the earth's surface. [10]
- (c) Explain how human activities have modified temperatures in recent times. [9]
- 4 Fig. 1 (page 4) shows conditions of the atmosphere.
- (a) Define the terms  
(i) adiabatic cooling, and  
(ii) condensation level. [6]
- (b) Name the atmospheric conditions A, B and C in Fig. 1 and explain how each of these conditions develops. [10]
- (c) What are the weather conditions likely to develop at each of B and C in Fig. 1? [9]

5 Fig.2 shows the relationship between rainfall and runoff during the course of a storm.

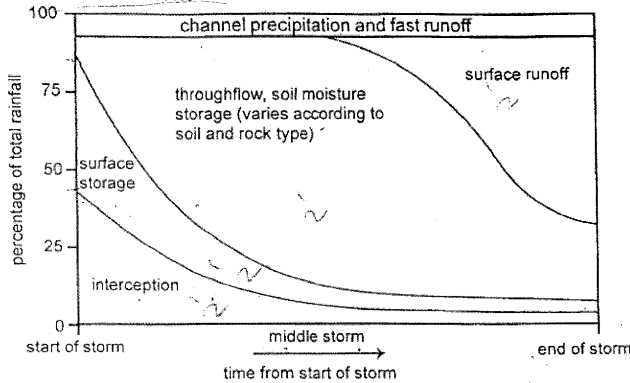


Fig.2

- (a) Describe the form and development of surface storage. [6]
  - (b) Describe and explain the changes which are taking place in the rainfall-runoff process during the course of the storm shown in Fig. 2. [10]
  - (c) How and why does the discharge of a river vary over a long period of time? [9]
- 6
- (a) Briefly explain the terms 'stream capacity', 'stream competence' and 'rejuvenation'. [6]
  - (b) With the aid of diagrams, describe and explain the landforms resulting from the deposition of sediment load in the lower course of a river. [10]
  - (c) How would rejuvenation affect river valley cross-profiles? [9]
- 7
- (a) Distinguish between 'sapprolite' and 'regolith'. [6]
  - (b) Outline two theories which have been put forward to explain the formation of tropical inselbergs. [10]
  - (c) Discuss the strengths and weaknesses of each of the two theories outlined in (b). [9]

- 8 Fig. 3 shows a process - response model of a hill slope.

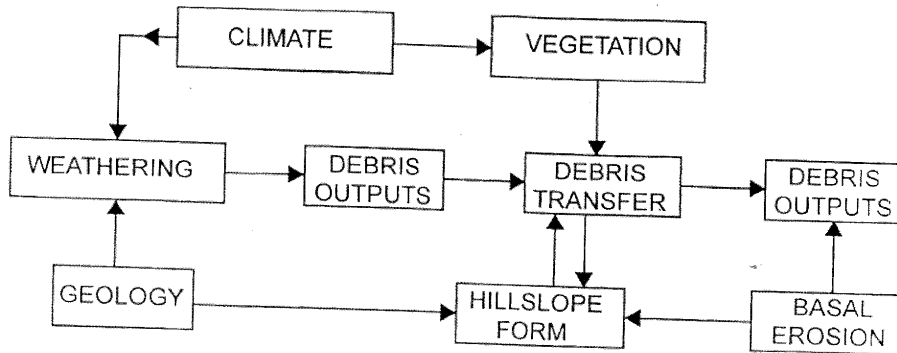


Fig. 3

(Source : D. Briggs and P. Smithson - Fundamentals of Physical Geography)

- (a) Define the terms 'free face slope' and 'debris slope'. [6]
- (b) Show how the processes shown in Fig. 3 influence the development and form of slopes. [10]
- (c) How may human activities influence debris transfers and slope form? [9]
- 9 (a) Distinguish between 'climatic climax vegetation' and 'plagio-climax vegetation'. [6]
- (b) Describe and explain how the concept of climatic climax vegetation can be used to explain the vegetation characteristics of tropical grasslands. [10]
- (c) To what extent have human activities modified the tropical grassland vegetation? [9]
- 10 (a) Explain the terms 'constructive waves', 'destructive waves' and 'longshore drift'. [9]
- (b) With the aid of diagrams, explain how marine deposition leads to the development of coastal landforms. [16]