



**GEOGRAPHY
HIGHER LEVEL
PAPER 3**

Friday 19 May 2000 (morning)

2 hours

INSTRUCTIONS TO CANDIDATES

- Do not open this examination paper until instructed to do so.
- Answer Section A
and
Either: answer two questions from Section B;
Or: answer one question from Section B and one question from Section C.

SECTION A - TOPOGRAPHIC MAPPING

Answer all parts of the question in this section.

1. Refer to the topographic map extract of the area around Victoria Falls, an area in south-eastern Africa.

The Falls lie at a latitude of 17°53'S and a longitude of 25°51'E. The Zambezi River marks an international boundary, with Zambia to the north and east of the map extract and Zimbabwe to the south and west of the river. The two main towns in the area are Victoria Falls (in Zimbabwe) and Livingstone (in Zambia).

The Falls are 1688 metres wide and up to 110 metres high. The rock type of the area comprises strongly jointed basalt, made up of thick lava flows. The climate of the area is semi-arid, with an average annual rainfall of about 600 mm. Rainfall is strongly seasonal, with less than 40 mm of rain usually falling between April and October (inclusive).

Photographs A and B show two oblique aerial views of the Main Falls from different directions.

The scale of the map is 1:50 000 and the contour interval is 20 metres.

- (a) For each photograph, A and B, state the direction in which the photograph was taken (i.e. the direction towards which the camera was pointing). [2 marks]
- (b) (i) For the area shown in photographs A and B, outline briefly the types of information shown on the map which are not shown in the photographs. [2 marks]
- (ii) For the area shown in photographs A and B, outline briefly the types of information shown in the photographs which are not shown on the map. [2 marks]
- (c) Describe the impact of the Zambezi River on the pattern of transport and communication in this area. [3 marks]
- (d) Suggest reasons for the varying density and types of vegetation in the area shown on the map. [3 marks]
- (e) Quoting evidence from the map, suggest whether the town of Victoria Falls or the town of Livingstone would have greater appeal to tourists. [3 marks]
- (f) Describe the changes in the landforms and land use you would see on a journey from the main intersection in Livingstone (791269) to the bridge over the Zambezi River (790176). [5 marks]

Photograph A



Photograph B



City, Town	HARARE, BINDURA
Village	Penhalonga
Boundary, International	---
" Cadastral, Original Grant	---
" " Subdivision	---
Game Reserve, National Park, Forest Land Boundaries	---
Road, Wide Tarred	==
" Narrow Tarred	---
" Wide Gravel, Bridge	---
" Narrow Gravel or Earth	---
Track, Cut Line or Gametrail	---
Aerodrome Landing Area	---
Railway, with Embankment, Cutting, Tunnel	---
" Narrow Gauge	---
Mast	A
Trigonometrical Station and Height in Metres to Ground Level	158/P 1190.6
Precise Levelling Bench mark with Height. Magnetic Station	1286.8

International Boundary Beacon. Unmarked Spot Height: Ground Survey, Photogrammetric	BB50A .1272 .1179
Power Line	33kV
Huts, Staff Quarters	---
Built-up Area, Buildings	---
Church	---
Hill Name	DOMBOSHAWA
Mine Name	Copper Queen
National Monument or Place of Historical Interest	+
Police Station, Post Office, Post and Telegraph Agency, Business Centre	PS PO PTA BC
Provincial Administrator, District Administration Office	PA DAO
River, Watercourse	---
Dam	---
Lake	---
Pan: Small, Large Waterfall	---
Rapid, Waterfall	---
Well, Spring, Borehole, Windpump, Reservoir	---
Furrow, Pipeline	---
Marsh	---
Contours at 20 metre Vertical Interval, with Cliff Feature	---
Depression, Sand	---
Isolated Hill Feature that does not take a Contour	---
Cultivation	---
Rock Outcrop, Smooth Rock	---
Mining or Prospecting Trench, Mine Dump, Quarry or Gravel Pit	---
Dense Bush, Very Dense Bush	---
Medium Bush	---
Sparse Bush	---
Orchard and Plantation	---



Answer **either** two questions from Section B **or** one question from Section B and one question from Section C.

SECTION B - THE NATURAL ENVIRONMENT

2. Explain why the behaviour of the atmosphere differs according to latitude. [20 marks]
3. Photographs C, D and E below show areas of glaciation, coast and hot desert respectively. Identify and name **one** landform in **each** of the three photographs, and explain the relative importance of erosion and deposition in the formation of each landform. [20 marks]

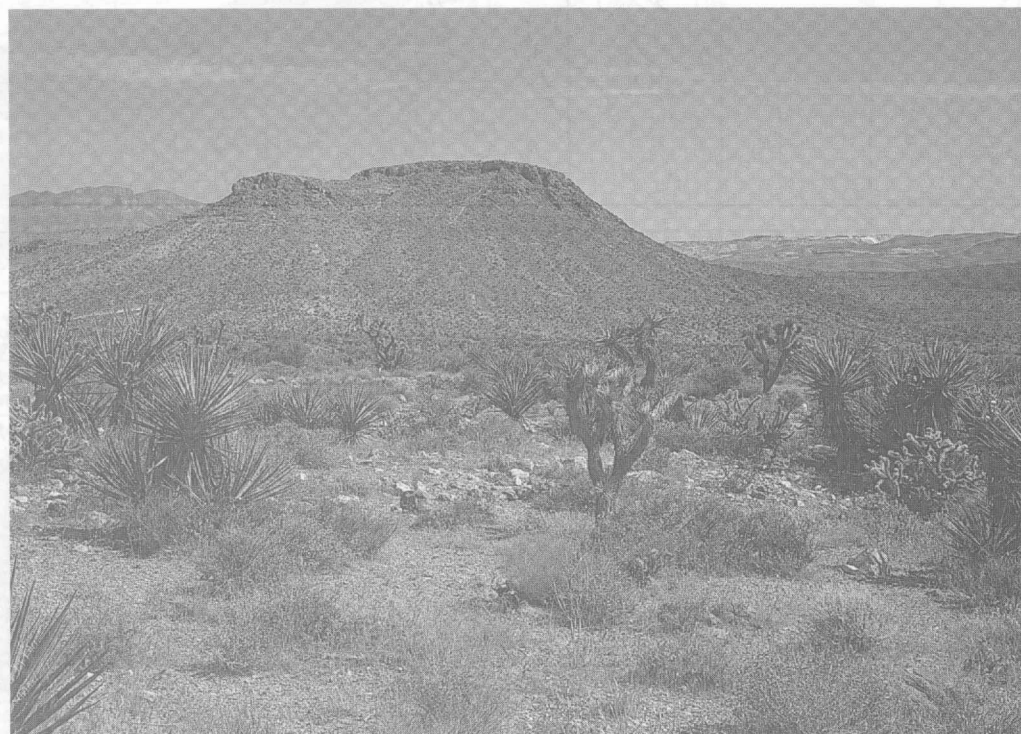
Photograph C



Photograph D



Photograph E



4. Refer to the map extract on page 3 of this examination paper. Compare the landforms of the Zambezi River to the north of the Main Falls with the landforms to the south of the Main Falls, and describe the fluvial processes which would be operating in the two sections of the river. [20 marks]
5. With reference to an ecosystem (or a plant community) you have studied, identify the forces causing change, and discuss how sensitive the ecosystem (or plant community) is to disturbance. [20 marks]

SECTION C - RESOURCES

6. Approaches to resource management range from preservation of natural environments to exploitation of natural resources. Evaluate the case for each of these extreme management positions. [20 marks]
7. Explain how the concepts of conservation, recycling and resource substitution can help address one or more of the following environmental issues:
- acid rain;
 - possible global warming;
 - air pollution;
 - water pollution;
 - sedimentation;
 - waste disposal;
 - another environmental issue you have studied.
- [20 marks]