

B O A R D O F S T U D I E S
NEW SOUTH WALES

2002

**HIGHER SCHOOL CERTIFICATE
EXAMINATION**

Geography

General Instructions

- Reading time – 5 minutes
- Working time – 3 hours
- Write using black or blue pen
- Board-approved calculators may be used
- A Stimulus Booklet is provided with this paper
- Write your Centre Number and Student Number at the top of pages 9, 11, 13 and 15

Total marks – 100

Section I Pages 2–6

15 marks

- Attempt Questions 1–15
- Allow about 25 minutes for this section

Section II Pages 9–15

25 marks

- Attempt Questions 16–19
- Allow about 45 minutes for this section

Section III Page 17

60 marks

- Attempt Questions 20–22
- Allow about 1 hour and 50 minutes for this section

Section I

15 marks

Attempt Questions 1–15

Allow about 25 minutes for this section

Refer to the Stimulus Booklet

Use the multiple-choice answer sheet.

Select the alternative A, B, C or D that best answers the question. Fill in the response oval completely.

Sample: $2 + 4 =$ (A) 2 (B) 6 (C) 8 (D) 9
A B C D

If you think you have made a mistake, put a cross through the incorrect answer and fill in the new answer.

A B C D

If you change your mind and have crossed out what you consider to be the correct answer, then indicate the correct answer by writing the word *correct* and drawing an arrow as follows.

A B C D
correct ↙

Refer to Source A to answer Questions 1 and 2.

- 1** In 2000, what percentage of Sao Paulo's population were females between the ages of 30 and 39?
- (A) 3%
 - (B) 4%
 - (C) 7%
 - (D) 8%
- 2** In 2000, approximately how many people living in Sao Paulo were in the 5–9 age group?
- (A) 979 000
 - (B) 1 780 000
 - (C) 1 958 000
 - (D) 2 136 000

Refer to Source B to answer Questions 3 and 4.

- 3** Which of the following geographical concepts are illustrated by the population changes recorded in the table?
- (A) Social structure and ethnicity
 - (B) Urbanisation and urban growth
 - (C) Commercial and industrial development
 - (D) Future trends and ecological sustainability
- 4** What is the percentage increase in total population in Brazil between 1990 and 2000?
- (A) 5%
 - (B) 6%
 - (C) 9%
 - (D) 10%

5 Refer to Source C.

What type of housing is shown in Photograph 1?

- (A) Squatter settlement
- (B) Government housing
- (C) High rise housing
- (D) Low density settlement

Refer to Source D to answer Questions 6 and 7.

6 What is the general direction of flow for the river located in AR 3291?

- (A) North-east
- (B) South-west
- (C) South-east
- (D) North-west

7 What is the distance by road between Wapet Camp (AR 3896) and Town Point (AR 4000)?

- (A) 4.5 km
- (B) 5.5 km
- (C) 7.5 km
- (D) 8.5 km

8 Refer to Sources D and F.

Which direction was the photographer facing when Photograph 1 in Source F was taken?

- (A) North
- (B) South
- (C) North-west
- (D) North-east

9 Refer to Sources F and G.

Which of the following concepts are relevant to both Sources F and G?

- (A) The biophysical interactions of ecosystems at risk and their functioning.
- (B) Human modification of ecosystems at risk and the vulnerability of ecosystems.
- (C) The biophysical interactions of ecosystems at risk and their human modifications.
- (D) Human modification of ecosystems at risk and the use of ecosystem management.

10 Refer to Source H.

Which of the following best describes the precipitation pattern on Barrow Island?

- (A) Evenly distributed
- (B) Unevenly distributed
- (C) Summer maximum
- (D) Winter maximum

11 Refer to Sources D, F and H.

Which of the following best explains the ecosystem evident in Photograph 4, Source F?

- (A) Low precipitation and low elevation
- (B) High precipitation and high elevation
- (C) Low precipitation and high elevation
- (D) High precipitation and low elevation

12 Refer to Source I.

How much oil was produced by the African region in 2000?

- (A) 41 billion barrels
- (B) 76 billion barrels
- (C) 98 billion barrels
- (D) 273 billion barrels

- 13** Which of the following are urban dynamics of change?
- (A) Consolidation, culture of place and exurbanisation
 - (B) Suburbanisation, consolidation and spatial exclusion
 - (C) Exurbanisation, urban decay and industrial development
 - (D) Ecological sustainability, urban decay and suburbanisation

Refer to Source J to answer Questions 14 and 15.

- 14** Which world city has the greatest number of TNC headquarters?
- (A) Tokyo
 - (B) London
 - (C) Sydney
 - (D) New York
- 15** Which feature does Source J best illustrate about the global economic activities shown?
- (A) Their spatial pattern
 - (B) Their future trends
 - (C) Their even global distribution
 - (D) Their responses to changes in technology

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Centre Number

Section II

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Student Number

25 marks
Attempt Questions 16–19
Allow about 45 minutes for this section

Use the Stimulus Booklet and your knowledge of geography to answer Questions 16–19 in the spaces provided.

Marks

Question 16 (6 marks)

Refer to Source C.

Using evidence from the photographs, identify ONE challenge of living in mega cities in the developing world and describe TWO responses to this challenge.

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Geography

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Centre Number

Section II (continued)

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Student Number

Marks

Question 17 (7 marks)

- (a) Using Sources A and B, calculate the percentage of Brazil's population living in Sao Paulo in the year 2000. **1**

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- (b) Using Source A, identify TWO features of the population pyramid that make it typical of a mega city in the developing world. **2**

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- (c) Describe ONE health issue and ONE social issue that a mega city in the developing world could face in the next decade. **4**

Health issue

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Social issue

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Geography

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Centre Number

Section II (continued)

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Student Number

Marks

Question 18 (5 marks)

Refer to Sources D, E and F.

An environmental impact report must be written before drilling for oil in AR 3593.

- (a) From the sources, identify ONE ecosystem that could be placed at risk as a result of drilling for oil. **1**

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- (b) Outline TWO likely impacts that the drilling could have on the ecosystem identified in part (a). **4**

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Centre Number

Section II (continued)

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Marks

Question 19 (7 marks)

- (a) Using Source I, describe the spatial pattern of the global production of oil in 2000. **3**

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- (b) Describe TWO factors influencing the future direction of a global economic activity you have studied. **4**

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Geography

Section III

60 marks

Attempt Questions 20–22

Allow about 1 hour and 50 minutes for this section

Answer each question in a SEPARATE writing booklet. Extra writing booklets are available.

In your answers you will be assessed on how well you:

- present a sustained, logical and well-structured answer to the question
 - communicate geographical information, ideas and issues
 - refer to appropriate case studies, illustrative examples and the Stimulus Booklet where appropriate
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Question 20 (20 marks)

With reference to at least ONE ecosystem you have studied, explain the biophysical interactions which lead to diverse ecosystems and their functioning.

Question 21 (20 marks)

Examine the role of world cities and the operation of these cities within global networks.

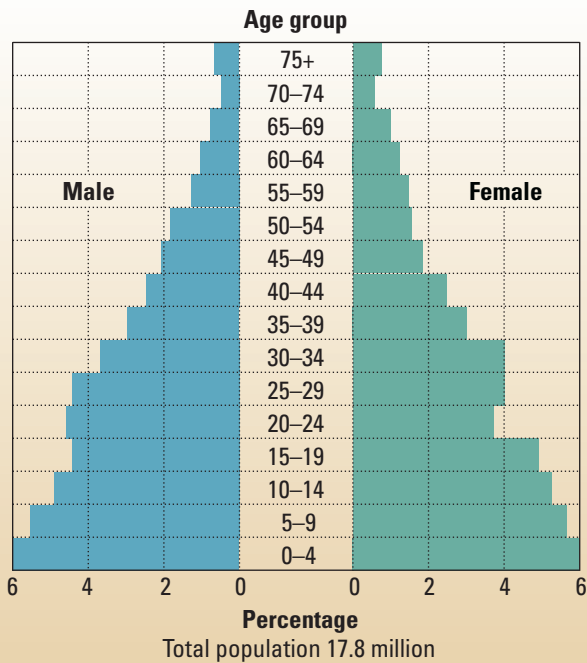
Question 22 (20 marks)

Account for the location of an economic enterprise you have studied at a local scale, and describe the ecological dimensions related to this enterprise.

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Source A – Population Sao Paulo, 2000



Source B – The Changing Population

Brazil 1950–2000

Year	Rural population ('000)	% rural population	Urban population ('000)	% urban population	Total population ('000)
1950	33 162	64	18 782	36	51 944
1960	38 767	55	31 303	45	70 070
1970	41 054	44	52 085	56	93 139
1980	38 566	32	70 436	68	119 002
1990	35 669	24	114 699	76	150 368
2000	29 773	18	135 632	82	165 405

Source C – Glimpses of Cities in the Developing World



Source D – Topographic Map Extract of Barrow Island



Key for Source D

Unsealed road two or more lanes; Culvert; Causeway	
Mines; Building; Ruin; Church; Windpump; Yard	
Fence; Horizontal control point; Spot elevation	
Contour with value and cliff; Pinnacle	
Depression contours; Sand	
Vegetation: Dense, medium, scattered	
Watercourse; Area subject to inundation	
Swamp; Swamp definite boundary	
Tank or small dam; Waterhole	
Saline coastal flat; Intertidal flat; Rock bare or awash	
Navigation light; Intertidal ledge or reef	
Exposed wreck; Submerged wreck	
Submerged reef; Submerged rock	
Indefinite watercourse; Mangrove swamp	

Scale 1:100 000
Contour interval 20 metres



Source E

Until West Australian Petroleum Pty Ltd (Wapet) arrived on Barrow Island to explore for oil in 1964, the island had never been permanently occupied by humans.

Its abundant wildlife, particularly marsupials, escaped the effects of introduced species.

The environment retained its natural integrity, an outcome probably unique in Australia.

For these reasons, Barrow Island has been called a living museum and is rated one of the most important wildlife refuges in Australia.

Source F – Images of Barrow Island

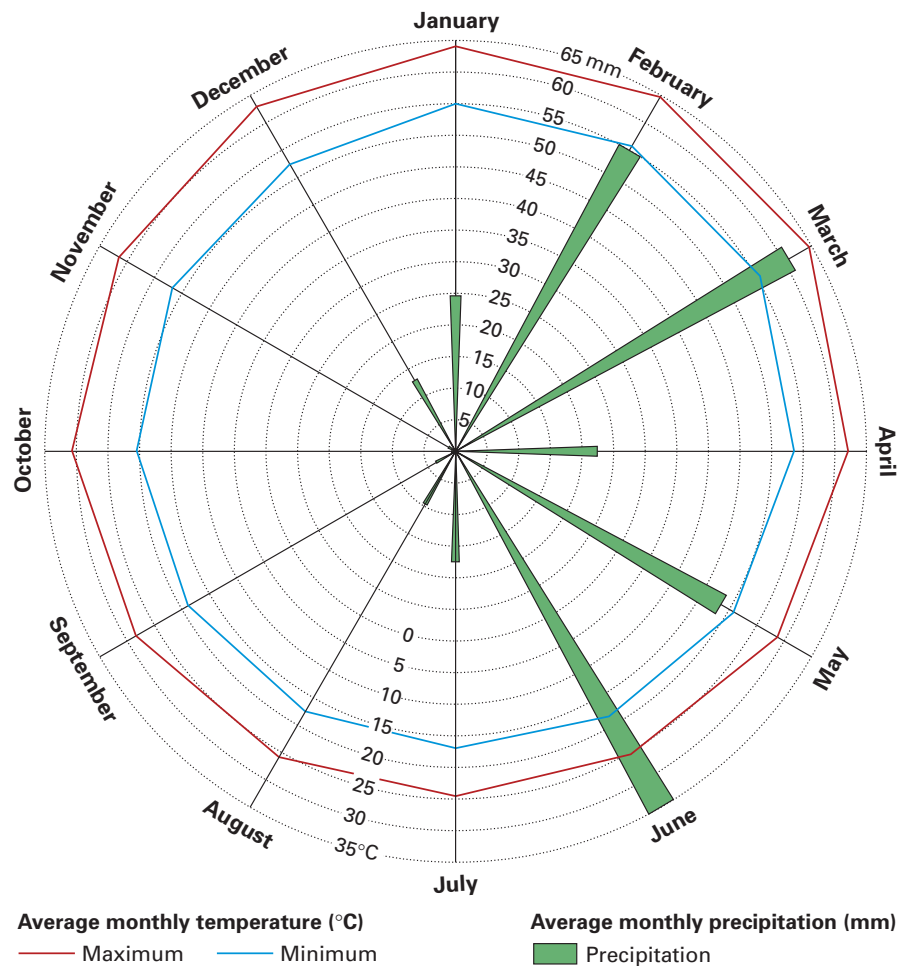


Source G

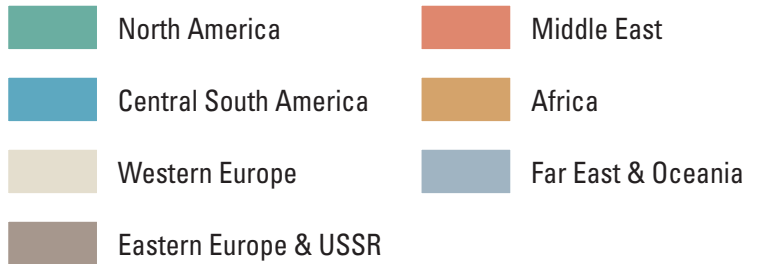
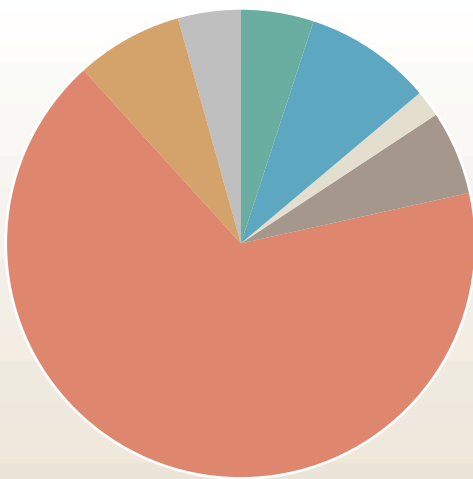
Management strategies used on Barrow Island:

- Quarantine to prevent introduction of exotic species
- Rehabilitation of disturbed area
- Workforce education
- Reviewing of conservation strategies
- Declaration as A-Class nature reserve

Source H – Climatic graph of Barrow Island



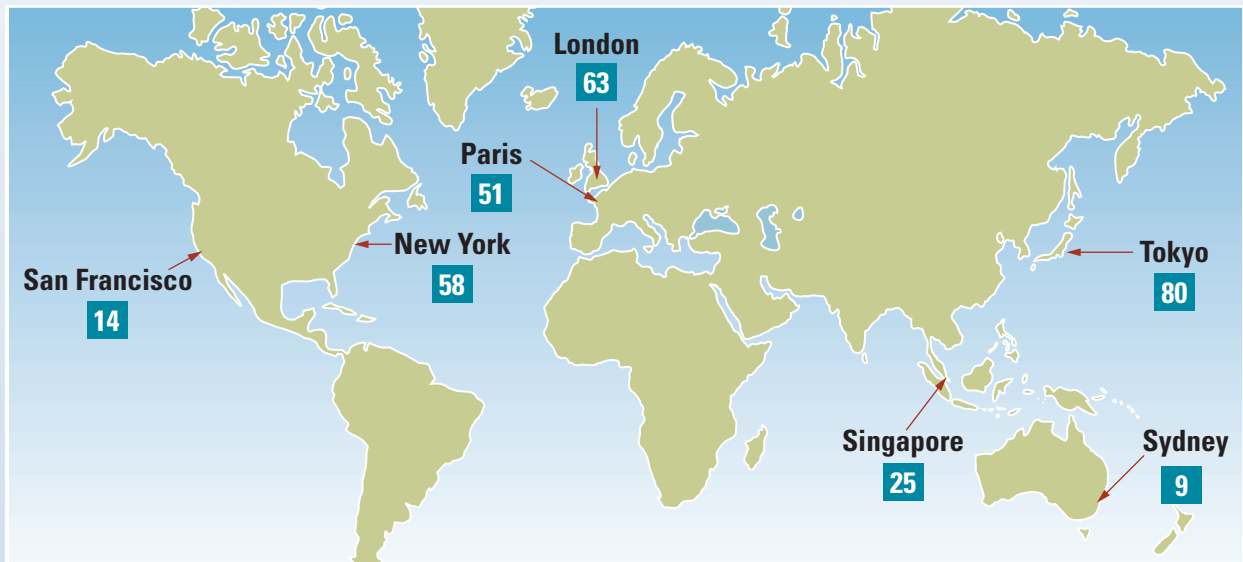
Source I – World Oil Production by Region, 2000



Total World Production
1012.8 billion barrels

Source J – Examples of Links Between World Cities and Some Global Economic Activities

Locations of the headquarters of the top 300 Transnational Corporations (TNC)



International communications network of Citicorp bank

