



Western Australian Certificate of Education Examination, 2013

Question/Answer Booklet

GEOGRAPHY

Stage 3

Please place your student identification label in this box

Student Number: In figures

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In words _____

Time allowed for this paper
Reading time before commencing work: ten minutes
Working time for paper: three hours

Materials required/recommended for this paper
To be provided by the supervisor
This Question/Answer Booklet
Broadsheet
Multiple-choice Answer Sheet

To be provided by the candidate
Standard items: pens (blue/black preferred), pencils (including coloured), sharpener, correction fluid/tape, eraser, ruler, highlighters

Special items: approved drawing and measuring instruments (i.e. dividers, drawing compass, string, protractor), non-programmable calculators approved for use in the WACE examinations

Section three: Parts A & B
Place ticks (✓) in boxes to indicate the questions you have answered

Part A

Q 28 or Q 29

Part B

Q 30 or Q 31

Number of additional answer booklets used (if applicable):

Important note to candidates
No other items may be taken into the examination room. It is **your** responsibility to ensure that you do not have any unauthorised notes or other items of a non-personal nature in the examination room. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

Structure of this paper

Section	Number of questions available	Number of questions to be answered	Suggested working time (minutes)	Marks available	Percentage of exam
Section One: Multiple-choice	20	20	30	20	20
Section Two: Short response	7	7	40	20	20
Section Three Part A: Extended response	2	1	110	60	60
Part B: Extended response	2	1			
Total					100

Instructions to candidates

- The rules for the conduct of Western Australian external examinations are detailed in the *Year 12 Information Handbook 2013*. Sitting this examination implies that you agree to abide by these rules.
- Answer the questions according to the following instructions.
Section One: Answer **all** questions on the separate Multiple-choice Answer Sheet provided. For each question, shade the box to indicate your answer. Use only a blue or black pen to shade the boxes. If you make a mistake, place a cross through that square, then shade your new answer. Do not erase or use correction fluid/tape. Marks will not be deducted for incorrect answers. No marks will be given if more than one answer is completed for any question.

Sections Two and Three: Write your answers in this Question/Answer Booklet.
- Wherever possible, you are encouraged to use relevant, fully labelled sketch maps, diagrams and actual examples to illustrate and support your answers.
- You must be careful to confine your responses to the specific questions asked and to follow any instructions that are specific to a particular question.
- Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.
 - Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
 - Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question that you are continuing to answer at the top of the page.
- You are encouraged to refer to the sources on the broadsheet to support your answer for any question. The Broadsheet is **not** handed in with your Question/Answer Booklet.

See next page

Section One: Multiple-choice

20% (20 Marks)

This section has **20** questions. Answer **all** questions on the separate Multiple-choice Answer Sheet provided. For each question, shade the box to indicate your answer. Use only a blue or black pen to shade the boxes. If you make a mistake, place a cross through that square, then shade your new answer. Do not erase or use correction fluid/tape. Marks will not be deducted for incorrect answers. No marks will be given if more than one answer is completed for any question.

Suggested working time: 30 minutes.

Refer to **Source 1** on the Broadsheet, then answer Questions 1–7.

1. What cultural feature is located at **GR 938 632**?
 - (a) Trinity College
 - (b) WACA Oval
 - (c) WA Police Headquarters
 - (d) car park

2. The scale of the map can be expressed in words as
 - (a) one centimetre represents 25 metres.
 - (b) one centimetre represents 250 metres.
 - (c) one metre represents 250 metres.
 - (d) one metre represents 5 kilometres.

3. What is the approximate area of Heirisson Island, including the lakes?
 - (a) 0.3 km²
 - (b) 0.13 km²
 - (c) 13 km²
 - (d) 2.6 km²

4. What is the closest bearing of the causeway from **GR 942 628** to **GR 946 625**?
 - (a) 055°
 - (b) 125°
 - (c) 150°
 - (d) 305°

5. In which general direction is the Swan River flowing?
 - (a) north-east
 - (b) west-south-west
 - (c) west
 - (d) south-west

See next page

6. Approximately how long would it take a train travelling at an average speed of 30 km/hr to travel from West Perth Station (**GR 906 649**) to Claisebrook Station (**GR 934 644**), without stopping?
- (a) 4 minutes
 - (b) 6 minutes
 - (c) 8 minutes
 - (d) 10 minutes
7. Which of the following best describes the average gradient of the slope from the horizontal control point (spot height) at **GR 907 632** to the road at **GR 908 633**?
- (a) 1:2
 - (b) 1:6
 - (c) 1:30
 - (d) 1:50

Refer to **Sources 1 and 2** on the Broadsheet, then answer Questions 8 and 9.

8. What was the land formerly used for, on which the Perth Arena (located at 31° 57'S 115° 51'E) now stands?
- (a) Metro Markets
 - (b) Entertainment Centre
 - (c) car park
 - (d) built-up area
9. Which of the following urban processes is **not** evident at **GR 940 643** in 2012?
- (a) invasion and succession
 - (b) planning
 - (c) urban sprawl
 - (d) renewal/redevelopment

Refer to **Sources 1, 2 and 3** on the Broadsheet, then answer Questions 10 and 11.

10. What land use type is likely to be most affected by the 2100 high sea level rise scenario?
- (a) commercial
 - (b) recreational
 - (c) residential
 - (d) industrial

11. The site of which major planning initiative will be most adversely affected by the 2100 high sea level rise scenario?
- (a) the proposed Burswood Stadium (**GR 950 643**)
 - (b) Elizabeth Quay (**GR 918 635**)
 - (c) Perth Oval (**GR 931 648**)
 - (d) the Perth Convention and Exhibition Centre (**GR 913 636**)

Refer to **Source 5** on the Broadsheet, then answer Questions 12 and 13.

12. In which of the following functional zones is the gender imbalance greatest?
- (a) inner mixed zone
 - (b) central business district
 - (c) established residential zone
 - (d) rural urban fringe
13. High levels of home ownership are related most closely to
- (a) median weekly household income and percentage tertiary educated.
 - (b) percentage Australian born and median household weekly income.
 - (c) percentage tertiary educated and percentage Australian born.
 - (d) median weekly household income and percentage over 60 years.

Refer to **Source 7** on the Broadsheet, then answer Questions 14 and 15.

14. In which decade was the greatest increase in greenhouse gas emissions experienced?
- (a) 1970s
 - (b) 1980s
 - (c) 1990s
 - (d) 2000s
15. What is the largest source of greenhouse gas emissions?
- (a) agriculture
 - (b) industry
 - (c) forestry
 - (d) energy supply

16. A megacity is defined as having a population greater than
- (a) 2 million.
 - (b) 5 million.
 - (c) 10 million.
 - (d) 20 million.
17. Which of the following is most likely to occur in Perth's inner mixed zone?
- (a) urban sprawl
 - (b) inertia
 - (c) decentralisation
 - (d) invasion and succession
18. Which of the following urban problems is most likely to result from the process of agglomeration?
- (a) loss of amenity
 - (b) traffic congestion
 - (c) slums and blight
 - (d) provision of infrastructure and services
19. Which of the following data sources is most likely to provide reliable information on the changing atmospheric levels of carbon dioxide over the last 2000 years?
- (a) temperature measurements
 - (b) tree rings
 - (c) ozone layer depletion
 - (d) pollution levels
20. Which type of evidence for climate change operates both through geological time and in recent human history?
- (a) frequency of extreme weather events
 - (b) dendrochronology
 - (c) sea level change
 - (d) paleoclimatology

End of Section One

See next page

Section Two: Short response**20% (20 Marks)**

This section has **seven (7)** questions. Answer **all** questions. Write your answers in the spaces provided.

Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.

- Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
- Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question that you are continuing to answer at the top of the page.

Suggested working time: 40 minutes.

Question 21**(1 mark)**

Provide **one** example of a human modification to the hydrological cycle.

Question 22**(3 marks)**

Refer to **Source 2** on the Broadsheet.

(a) Name the season in which the aerial photograph was taken.

(1 mark)

(b) Provide **one** piece of evidence from the aerial photograph to support your claim.

(2 marks)

Question 23

(2 marks)

Refer to **Sources 1** and **2** on the Broadsheet.

Describe **one** change to the physical landscape and **one** change to the cultural landscape that has occurred in the area between the cemetery at **GR 938 637** and the railway bridge at **GR 942 646**, between 1985 and 2012.

- (a) Change to the physical landscape (1 mark)

- (b) Change to the cultural landscape (1 mark)

Question 24

(4 marks)

Refer to **Sources 1** and **2** on the Broadsheet and your geographical knowledge of Perth.

Outline major changes to the road and rail networks between 1985 and 2012.

- (a) Road networks (2 marks)

(b) Rail networks

(2 marks)

Question 25

(3 marks)

Refer to **Source 6** on the Broadsheet.

Contrast the recent and long-term trends in atmospheric carbon dioxide concentration over the last 2000 years.

Question 26

(4 marks)

Refer to **Source 1** on the Broadsheet.

Construction work has commenced on the Elizabeth Quay foreshore development at **GR 918 635**. Identify **one** stakeholder who will be positively affected and **one** stakeholder who will be negatively affected by this change.

For each stakeholder provide a reason for their viewpoint.

(a) Positively-affected stakeholder

(2 marks)

(b) Negatively-affected stakeholder

(2 marks)

Question 27

(3 marks)

Explain the concept of sustainability as it applies to either agriculture or urban settlement and industry.

End of Section Two

See next page

Section Three: Extended response**60% (60 Marks)**

This section contains **four (4)** questions. You must answer **two (2)** questions: **one (1)** from **Part A** and **one (1)** from **Part B**. Write your answers on the pages provided.

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- Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question that you are continuing to answer at the top of the page.

Suggested working time: 110 minutes.

Part A: Answer either Question 28 or Question 29.

Question 28**(30 marks)**

Refer to **Source 4** on the Broadsheet.

- (a) Describe and account for the site, situation and external morphology of the Perth metropolitan region. (10 marks)
- (b) With reference to specific examples, discuss how environmental factors influence urban planning decisions in the Perth metropolitan region. (10 marks)
- (c) With reference to specific examples, discuss how social factors influence planning decisions in a **megacity** of your choice. (10 marks)

or

Question 29**(30 marks)**

Refer to **Sources 4 and 5** on the Broadsheet.

- (a) Outline the age, gender, socioeconomic and cultural demographic patterns within the Perth metropolitan region with reference to the factors that affect these patterns. (10 marks)
- (b) With reference to specific examples, discuss how social factors influence urban planning decisions in the Perth metropolitan region. (10 marks)
- (c) With reference to specific examples, discuss how environmental factors influence planning decisions in a **megacity** of your choice. (10 marks)

See next page

Part B: Answer either Question 30 or Question 31.

Question 30**(30 marks)**Refer to **Sources 6, 7 and 8** on the Broadsheet.

- (a) Describe and account for the variations in atmospheric carbon dioxide concentrations in recent human history. (8 marks)
- (b) Describe how these changes in atmospheric carbon dioxide concentrations interact with other natural systems to influence the earth's climate. (10 marks)
- (c) Discuss the strategies implemented and/or proposed to adapt to and/or mitigate the adverse effects of atmospheric greenhouse gas emissions at local, national and global levels. (12 marks)

or**Question 31****(30 marks)**Refer to **Sources 6, 7 and 8** on the Broadsheet.Refer to either agriculture **or** urban settlement and industry.

- (a) Use specific examples to demonstrate how climate change has environmental consequences. (8 marks)
- (b) Use specific examples to demonstrate how human systems are drivers of climate change. (10 marks)
- (c) Outline the viewpoints of **three** different stakeholders toward **one** strategy that aims to minimise the effects of climate change. (12 marks)

End of questions

Question number: _____

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