



Western Australian Certificate of Education Examination, 2015

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 2015*. 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** to be 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 to answer Questions 1–7.

1. Identify the cultural feature located at GR 808281.
 - (a) Rockingham Golf Course
 - (b) Police Station
 - (c) Rockingham Beach
 - (d) Sunray Caravan Park

2. What is the closest latitude and longitude of Seal Island (GR 765262)?
 - (a) $115^{\circ}41'E$ $32^{\circ}18'S$
 - (b) $115^{\circ}41'W$ $32^{\circ}16'S$
 - (c) $32^{\circ}18'S$ $115^{\circ}41'E$
 - (d) $32^{\circ}16'S$ $115^{\circ}41'W$

3. Identify the type of vegetation cover located in AR 7926.
 - (a) scattered scrub
 - (b) scattered forest
 - (c) pine plantation
 - (d) medium scrub

4. Calculate the length of Parkin Street between easting 79 and easting 80.
 - (a) 4 km
 - (b) 400 m
 - (c) 1 km
 - (d) 10 km

5. In which direction does the Causeway (GR 773285) extend from the mainland?
 - (a) north
 - (b) north-north east
 - (c) south
 - (d) south-south west

See next page

6. What is the closest bearing followed when travelling from the south-west corner of Rockingham Golf Course (GR 811270) along Read Street to the intersection of Malibu Road at GR 819251?
- (a) 255°
 - (b) 335°
 - (c) 75°
 - (d) 155°
7. The total area of open water within Lake Richmond (GR 790270) is closest to
- (a) 0.5 km².
 - (b) 0.75 km².
 - (c) 1 km².
 - (d) 0.25 km².

Refer to **Sources 1 and 2** on the Broadsheet to answer Questions 8–11.

8. What former land use occupied the location at point A on the aerial photograph in 1978?
- (a) high school
 - (b) residential
 - (c) aged persons' home
 - (d) golf course
9. Which urban process is **best** represented by the land use changes shown south of northing 26?
- (a) agglomeration
 - (b) urban sprawl
 - (c) inertia
 - (d) renewal
10. Identify the main direction in which Rockingham Park Shopping Centre (AR 8126) expanded between the years 1978 and 2013.
- (a) southerly direction
 - (b) westerly direction
 - (c) northerly direction
 - (d) easterly direction
11. Which of the following area reference locations has experienced the **least** land use change between 1978 and 2013?
- (a) AR 8025
 - (b) AR 8123
 - (c) AR 7727
 - (d) AR 7926

Refer to **Source 3** on the Broadsheet to answer Question 12.

12. Which of the following urban problems is **best** illustrated by Source 3?
- (a) provision of infrastructure and services
 - (b) urban blight
 - (c) pollution
 - (d) loss of amenity

Refer to **Source 4** on the Broadsheet to answer Question 13.

13. Which of the following urban processes is **not** occurring in Source 4?
- (a) planning regulations
 - (b) land use competition
 - (c) renewal
 - (d) urban sprawl

Refer to **Source 5** on the Broadsheet to answer Question 14.

14. What is the average east-west extent of the Swan Coastal Plain between Perth and Mandurah?
- (a) approximately 25 km
 - (b) approximately 75 km
 - (c) approximately 50 km
 - (d) approximately 10 km

Refer to **Source 6** on the Broadsheet to answer Question 15.

15. Which suburb **most** exceeds the Perth Metropolitan Area average for housing owned with a mortgage?
- (a) Applecross
 - (b) Rockingham
 - (c) Ellenbrook
 - (d) Jarrahdale
16. The urban problem of traffic congestion is **most** characteristic of the
- (a) newer growth zone.
 - (b) established residential zone.
 - (c) inner mixed zone.
 - (d) rural-urban fringe.

17. The greenhouse effect is an element of which of the following natural systems?
- (a) carbon cycle
 - (b) hydrological cycle
 - (c) heat budget
 - (d) atmospheric circulation
18. Which of the following can provide evidence for climate change in both recent human history and over geological time?
- (a) palaeoclimatology
 - (b) sea level change
 - (c) satellite data
 - (d) archival records

Refer to **Source 7** on the Broadsheet to answer Question 19.

19. Which of the following **best** describes the change in the global land-ocean temperature index for the two periods 1900–1910 and 2000–2010?
- (a) decrease in temperature in 1900–1910 and increase in temperature in 2000–2010
 - (b) increase in temperature in 1900–1910 and decrease in temperature in 2000–2010
 - (c) increase in temperature in 1900–1910 and increase in temperature in 2000–2010
 - (d) decrease in temperature in 1900–1910 and decrease in temperature in 2000–2010

Refer to **Source 8** on the Broadsheet to answer Question 20.

20. In a 4 °C scenario, which of the following key risks from climate change has the **least** potential for additional adaptation to reduce risk?
- (a) increased drought-related water and food shortage
 - (b) heat-related human mortality
 - (c) increased flood damage to infrastructure and settlements
 - (d) significant change in composition and structure of coral reef systems

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**(4 marks)**

Refer to **Source 2** on the Broadsheet to answer Question 21.

Identify and provide grid references for **two** locations that are modelled as being susceptible to flooding under the high sea level rise scenario for 2100.

One: _____

Grid reference: _____

Two: _____

Grid reference: _____

Question 22**(2 marks)**

Outline the difference between the terms weather and climate.

Question 23

(3 marks)

Refer to **Source 9** on the Broadsheet to answer Question 23.

Describe **three** major changes in global anthropogenic carbon dioxide (CO₂) emissions over time.

One: _____

Two: _____

Three: _____

Question 24

(3 marks)

Refer to **Source 10** on the Broadsheet to answer Question 24.

Identify **three** spatial characteristics of sea level change between 1993 and 2008.

One: _____

Two: _____

Three: _____

Question 25

(3 marks)

(a) Define the process of invasion and succession.

(2 marks)

(b) Provide **one** example of this process within the Perth Metropolitan Area.

(1 mark)

Question 26

(3 marks)

Describe **three** characteristics of the Perth Metropolitan Area's rural-urban fringe.

One: _____

Two: _____

Three: _____

Question 27

(2 marks)

- (a) Identify **one** factor that increases land values in the Perth Metropolitan Area. (1 mark)

- (b) Identify **one** factor that decreases land values in the Perth Metropolitan Area. (1 mark)

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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- 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: 110 minutes.

Part A: Answer either Question 28 or 29.

Question 28**(30 marks)**

Refer to **Source 5** on the Broadsheet to answer (a) below.

- (a) Describe and account for the external morphology of the Perth Metropolitan Area. (8 marks)

Select **two** of the following factors to answer (b) below:

- environmental
- economic
- social
- political.

- (b) Discuss how the **two** selected factors influence urban planning decisions in the Perth Metropolitan Area. (10 marks)

- (c) Outline the problem of urban sprawl in the Perth Metropolitan Area and, for a megacity you have studied, outline **one** different urban problem. (12 marks)

or

Question 29**(30 marks)**

Refer to **Source 6** on the Broadsheet to answer (a) below.

- (a) Outline the demographic patterns for age, income and housing within the Perth Metropolitan Area. (8 marks)

- (b) Discuss the views and attitudes of **two** major stakeholder groups in response to the same planning strategy within the Perth Metropolitan Area. (10 marks)

- (c) Outline the problem of water supplies and water quality in the Perth Metropolitan Area and, for a megacity you have studied, outline **one** different urban problem. (12 marks)

See next page

Part B: Answer either Question 30 or 31.

Question 30**(30 marks)**

- (a) Explain the concept of climate change and provide evidence for this process, using **one** example from recent human history and **one** example over geological time. (8 marks)
- (b) Examine how climate change alters the spatial pattern of either agriculture **or** urban settlement and industry. (10 marks)

Select **two** of the following factors to answer (c) below:

- environmental
- economic
- social
- political.

- (c) Outline how the two selected factors affect decisions about sustainability, with reference to either agriculture **or** urban settlement and industry. (12 marks)

or

Question 31**(30 marks)**

- (a) Explain the concept of sustainability, using **two** examples from agriculture **or** using **two** examples from urban settlement and industry. (8 marks)
- (b) Outline the key elements of the hydrological cycle and describe how this system interacts with other natural systems to influence the earth's climate. (10 marks)
- (c) Outline the extent to which climate change affects sustainability, using **one** example at the local scale and **one** example at the global scale. (12 marks)

End of questions

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