



Government of **Western Australia**  
School Curriculum and Standards Authority



## ATAR course examination, 2022

### Question/Answer booklet

# GEOGRAPHY

Place one of your candidate identification labels in this box.  
Ensure the label is straight and within the lines of this box.

WA student number: In figures

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In words

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### Time allowed for this paper

Reading time before commencing work: ten minutes  
Working time: three hours

Number of additional  
answer booklets used  
(if applicable):

### 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), up to three calculators, which do not have the capacity to create or store programmes or text, are permitted in this ATAR course examination

### 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 material. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

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Ref: 22-033



GEO

## Structure of this paper

Section	Number of questions available	Number of questions to be answered	Suggested working time (minutes)	Marks available	Percentage of examination
Section One Multiple-choice	20	20	30	20	20
Section Two Short response	11	11	70	40	40
Section Three Extended response Part A: Unit 3	2	1	40	20	20
Part B: Unit 4	2	1	40	20	20
<b>Total</b>					100

## Instructions to candidates

- The rules for the conduct of the Western Australian external examinations are detailed in the *Year 12 Information Handbook 2022: Part II Examinations*. 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. Do not use erasable or gel pens. 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.

Section Two: Answer all questions. Write your answers in this Question/Answer booklet preferably using a blue/black pen. Do not use erasable or gel pens.

Section Three: Consists of two parts, each with two questions. You must answer one question from each part. Tick the box next to each question you are answering. Write your answers in this Question/Answer booklet preferably using a blue/black pen. Do not use erasable or gel pens.
- 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 answers to the specific questions asked and to follow any instructions that are specific to a particular question.
- Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.
- 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. Do not use erasable or gel pens. 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.

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Refer to **Source 1**: Derwent River Valley topographic map 1986 to answer Questions 1 to 12.

1. The scale of the topographic map, as a written statement, is one centimetre represents
  - (a) 250 metres.
  - (b) 750 metres.
  - (c) 25 000 metres.
  - (d) 7.5 kilometres.
  
2. The length of East Derwent Highway from Grid Reference (GR) 210672 to northing 66 is closest to
  - (a) 1.0 kilometre.
  - (b) 1.3 kilometres.
  - (c) 2.1 kilometres.
  - (d) 8.5 kilometres.
  
3. Cove Bridge is located at GR
  - (a) 689214.
  - (b) 209672.
  - (c) 213685.
  - (d) 214689.
  
4. The cultural feature located southwest of the intersection of Briggs Road and Old Beach Road at GR 226666 is
  - (a) Gage Brook.
  - (b) a school.
  - (c) the council chambers.
  - (d) a cemetery.
  
5. The contour interval of the topographic map is
  - (a) 10 metres.
  - (b) 25 metres.
  - (c) 50 metres.
  - (d) 100 metres.

**See next page**

6. Which of the following **best** represents the landform located between GR 227680 and GR 230684?
- (a) spur
  - (b) valley
  - (c) hill
  - (d) saddle
7. Which one of the following represents the latitude and longitude of Claremont Centre (AR 2061)?
- (a) 20°05'E 61°08'S
  - (b) 42°48'S 147°15'E
  - (c) 61°08'S 20°05'E
  - (d) 147°15'E 42°48'S
8. The compass bearing of the powerline from its intersection with Baskerville Road (AR 2464) to its intersection with Old Beach Road (AR 2266) is closest to
- (a) 56°.
  - (b) 146°.
  - (c) 236°.
  - (d) 326°.
9. The area of Baskerville Raceway (GR 240672), which is defined by land parcel boundary 2649, is closest to
- (a) 0.75 hectares.
  - (b) 7.5 hectares.
  - (c) 75 hectares.
  - (d) 750 hectares.
- Note: One hectare is 10 000 m<sup>2</sup>.
10. The average gradient for a person walking in a straight line from Point A (AR 2661) to the highest point of Mount Direction (AR 2561) is closest to
- (a) 1:2.
  - (b) 1:5.
  - (c) 1:20.
  - (d) 1:50.
11. The hydrological feature located at GR 208667 is a
- (a) cove with offshore rocks.
  - (b) saline coastal flat listed on the National Estate Register.
  - (c) tidal reef with an exposed wreck.
  - (d) tidal flat listed on the National Estate Register.

12. Which of the following correctly describes a site feature of Gunners Quoin (AR 2664)?
- (a) a western-facing slope ranging from 240 metres to 320 metres.
  - (b) a depression contour 4.5 kilometres east of Baskerville Road.
  - (c) a steep hill 1 kilometre north-east of Madmans Hill.
  - (d) an eastern-facing slope ranging from 240 metres to 420 metres.

Refer to **Source 1**: Derwent River Valley topographic map 1986 and **Source 3**: Derwent River Valley oblique photograph 2017 to answer Question 13.

13. In which direction was the photographer facing when taking the photograph?
- (a) west-north-west
  - (b) south-east
  - (c) north-west
  - (d) east-south-east

Refer to **Source 4**: Hobart climate graph 2021 to answer Question 14.

14. Which of the following statements correctly describes the temperature range in January for Hobart?
- (a) 47 °C.
  - (b) 10 °C.
  - (c) 22 °C.
  - (d) 12 °C.

Refer to **Source 5**: Greenhouse gas emissions per kilogram of food product to answer Question 15.

15. Increases in greenhouse gas (GHG) emissions from food production are most likely to occur due to an increase in demand for
- (a) Category A Foods resulting from decreasing affluence.
  - (b) Category A Foods resulting from increasing affluence.
  - (c) Category B Foods resulting from decreasing affluence.
  - (d) Category B Foods resulting from increasing affluence.
16. Which statement **best** describes an impact of land drainage and reclamation? It
- (a) causes the degradation of aquatic and marine environments.
  - (b) causes habitat destruction in forested areas being cleared for urban development.
  - (c) creates areas of land that have been rehabilitated, which mitigates future land cover changes.
  - (d) reduces ocean levels, which may mitigate the impacts of climate change.

Refer to **Source 7a**: Weekly income by age for Old Beach, Tasmania and Australia, 2016 to answer Question 17.

17. Which statement correctly describes the proportional weekly income of 35–54 year-old workers?
- (a) Australia has a higher proportion earning over \$1500 compared to Old Beach.
  - (b) Old Beach has a lower proportion earning over \$1500 compared to Tasmania.
  - (c) Old Beach has a lower proportion earning over \$1500 compared to Australia.
  - (d) Old Beach has a higher proportion earning over \$1500 compared to Australia.

Refer to **Source 7b**: Occupation as a % of workforce for Old Beach, Tasmania and Australia, 2016 to answer Question 18.

18. Which statement correctly describes the occupational characteristics of Old Beach, Tasmania and Australia? Proportionately,
- (a) Tasmania has 4.5% more clerical and administrative workers than Old Beach.
  - (b) Australia has 5% more community and personal service workers than Tasmania.
  - (c) Old Beach has 4.5% more clerical and administrative workers than Australia.
  - (d) Old Beach has 10% more professionals than Australia.
19. The spatial distribution of urban and rural places in Australia is **best** described as the
- (a) arrangement of cities, towns, and remote settlements across Australia.
  - (b) time period over which urban and rural places were developed in Australia.
  - (c) distribution of social demographic characteristics within Australia.
  - (d) dependence of rural and remote places on cities for the distribution of wealth.
20. Invasion and succession is **best** defined as
- (a) the grouping together of different or related land use functions that benefit from each other.
  - (b) a land use establishing in an area to become the dominant land use in that area.
  - (c) the tendency of an activity to remain in a location when it is no longer economically viable.
  - (d) the low-density outward growth of urban areas into the surrounding rural lands.

**End of Section One**

**See next page**

**Section Two: Short response****40% (40 Marks)**

This section has **11** questions. Answer **all** questions. Write your answers in the spaces provided.

Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Suggested working time: 70 minutes.

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Refer to **Source 1**: Derwent River Valley topographic map 1986 to answer Questions 21 and 22.

**Question 21****(2 marks)**

Calculate the time a boat travelling at an average speed of 12 km/h would take to sail directly from the jetty at Austins Ferry Bay (GR 209634) to the jetty at the public toilets at Bilton Bay (GR 211624). Show your calculations and answer in minutes and seconds.

Calculation:

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Answer:

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**Question 22****(2 marks)**

Outline **one** site feature and **one** situation feature of the reservoir located at GR 219679.

Site: \_\_\_\_\_

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Situation: \_\_\_\_\_

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Refer to **Source 1**: Derwent River Valley topographic map 1986 and **Source 2**: Old Beach aerial photograph 2019 to answer Question 23.

**Question 23**

**(3 marks)**

Locate by grid reference and describe **one** land use change that has occurred between 1986 and 2019 in the area situated between eastings 21 and 23, and northings 63 and 65.

Location by grid reference:

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Description of land use change:

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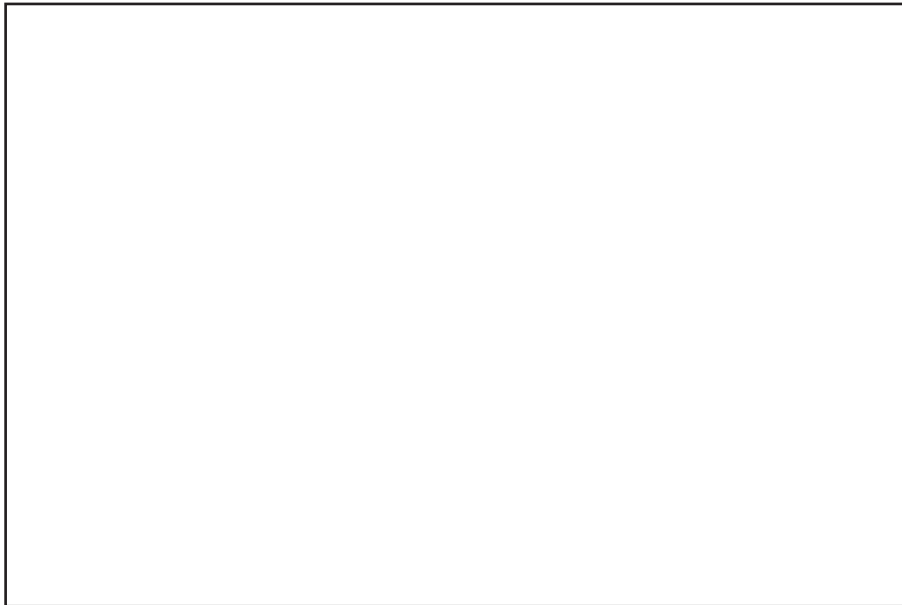


Refer to **Source 1**: Derwent River Valley topographic map 1986 and **Source 3**: Derwent Valley oblique photograph 2017 to answer Question 24.

**Question 24****(5 marks)**

In the frame below, draw an annotated sketch of the oblique photograph and label the following features on your sketch.

- Mountain range
- Outline of the river
- Mount Direction
- Dogshear Point
- Confectionery factory



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**Question 25**

**(2 marks)**

Define the term 'anthropogenic biome'.

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Refer to **Source 6**: The loss of biodiversity 1800 to 2100 to answer Question 26.

**Question 26**

**(3 marks)**

With specific reference to **Source 6**, explain how land cover change contributes to biodiversity loss.

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**Question 27****(4 marks)**

- (a) Describe the impact of world population growth on the rate of biodiversity loss. (2 marks)

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- (b) Describe the impact of advances in technology on the extent of land cover change. (2 marks)

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**Question 28**

**(3 marks)**

Explain **one** indigenous peoples' land management practice and its impact on land cover over time.

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Refer to **Source 8**: Majority rural populations vs Majority urban populations 1950 to 2050 to answer Question 29.

**Question 29**

**(4 marks)**

With specific reference to **Source 8**, describe **two** changes that have occurred, or are predicted to occur, in the world's urban and rural populations between 1950, 2000 and/or 2050.

One: \_\_\_\_\_

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Two: \_\_\_\_\_

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**Question 30**

**(6 marks)**

Explain **one** example of economic interdependence and **one** example of environmental interdependence between urban and rural places.

Economic interdependence:

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Environmental interdependence:

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Question 31

(6 marks)

From the list below, explain how **two** of these challenges affect Australian metropolitan or regional centres.

- Housing
- Economic restructuring
- Employment
- Transportation
- Congestion
- Environmental degradation
- Waste management
- Personal safety
- Land abandonment
- Urban sprawl
- Socio-spatial inequality
- Social inclusion and exclusion
- Changing demographics

One: \_\_\_\_\_

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Two: \_\_\_\_\_

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End of Section Two

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**Section Three: Extended response****40% (40 Marks)**

Section Three consists of **two** parts, Part A: Unit 3 and Part B: Unit 4.

Part A: Unit 3 consists of Questions 32 and 33. Part B: Unit 4 consists of Questions 34 and 35. Answer **one** question from Part A: Unit 3 and **one** question from Part B: Unit 4.

Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Suggested working time: 80 minutes.

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**Part A: Unit 3****20% (20 Marks)**

Choose **either** Question 32 **or** Question 33.

Indicate the question you will answer by ticking the box next to the question. Write your answer on pages 17–21. When you have completed Part A: Unit 3, turn to page 22.

Suggested working time: 40 minutes.

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**Question 32****(20 marks)**

- (a) Describe **one** natural cause and **one** anthropogenic cause of global climate change **or** declining biodiversity. (8 marks)
- (b) Assess **two** current or proposed strategies implemented to mitigate the adverse effects of **either** global climate change **or** loss of biodiversity. (12 marks)

**or**

**Question 33****(20 marks)**

- (a) Describe **one** major type of evidence through geological time and **one** major type of evidence in recent human history for climate change **or** loss of biodiversity. (8 marks)
- (b) Assess a program designed to address the impacts of land cover change on local and regional environments, giving consideration to **two** of the following aspects of sustainability:
- environmental
  - economic
  - social.
- (12 marks)

**See next page**



Question number: \_\_\_\_\_

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## Part B: Unit 4

20% (20 Marks)

Choose **either** Question 34 **or** Question 35.

Indicate the question you will answer by ticking the box next to the question. Write your answer on the pages provided.

Suggested working time: 40 minutes.

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**Question 34****(20 marks)**

- (a) Describe **two** demographic characteristics of **either** metropolitan Perth **or** a regional urban centre in Western Australia. (8 marks)
- (b) Select **one** significant challenge facing a megacity and discuss how **two** planning strategies are being, or have been, used to address the challenge. (12 marks)

**or**

**Question 35****(20 marks)**

- (a) Describe **two** demographic characteristics of a megacity you have studied. (8 marks)
- (b) Select **one** significant challenge facing **either** metropolitan Perth **or** a regional urban centre in Western Australia and discuss how **two** planning strategies are being, or have been, used to address the challenge. (12 marks)

**End of questions**





















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