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

ATAR course examination, 2021

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

In words

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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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
				Total	100

Instructions to candidates

1. The rules for the conduct of the Western Australian external examinations are detailed in the *Year 12 Information Handbook 2021: Part II Examinations*. Sitting this examination implies that you agree to abide by these rules.

2. Write your answers in this Question/Answer booklet preferably using a blue/black pen. Do not use erasable or gel pens.

3. 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.

   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.

4. Wherever possible, you are encouraged to use relevant, fully-labelled sketch maps, diagrams and actual examples to illustrate and support your answers.

5. 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.

6. 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.

7. 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

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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.

Refer to **Source 1:** Lilydale topographic map 2019 to answer Questions 1 to 8.

1. Lewis Hill is located at Grid Reference (GR)

   (a) 140613.
   (b) 201584.
   (c) 584201.
   (d) 613139.

2. The linear feature extending in a south-westerly direction from the edge of the map at GR 650126 to GR 613108 is

   (a) the Great Dividing Trail.
   (b) a railway tunnel.
   (c) an underground pipeline.
   (d) a power transmission line.

3. The cultural feature located at GR 597070 is

   (a) a fire station.
   (b) a police station.
   (c) Monbulk Recreational Reserve.
   (d) a Neighbourhood Safer Place.

4. The eastern end of Macclesfield Road, at GR 634085, is at a height closest to

   (a) 220 metres.
   (b) 230 metres.
   (c) 240 metres.
   (d) 250 metres.

5. Travelling along Queens Road, from the intersection of Queens Road and Lewis Road at GR 616140 to the intersection at GR 642158, you would be following a bearing of

   (a) 35 degrees.
   (b) 55 degrees.
   (c) 215 degrees.
   (d) 235 degrees.

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6. If travelling directly south from GR 645120 to GR 645110, the landform you cross is a

(a) hill.
(b) plain.
(c) ridge.
(d) valley.

7. The total area of the Silvan Reservoir, located adjacent to the Dandenong Ranges National Park, is closest to

(a) 2 square kilometres.
(b) 4 square kilometres.
(c) 8 square kilometres.
(d) 10 square kilometres.

8. The gradient of the section of Chalet Road that is permanently closed between the gate at GR 585083 and the gate at GR 591084 is closest to

(a) 1:8.
(b) 1:6.
(c) 1:4.
(d) 1:2.

Refer to **Source 1:** Lilydale topographic map 2019 and **Source 4:** Warburton Highway aerial photograph 2018 to answer Questions 9 to 12.

9. Which one of the following statements is correct?

(a) The scale of Source 1 is larger than the scale of Source 4.
(b) The scale of Source 1 is smaller than the scale of Source 4.
(c) The scale of Source 1 is the same as the scale of Source 4.
(d) The scale of Source 1 is three times smaller than the scale of Source 4.

10. The length of Warburton Highway shown on **Source 4** is closest to

(a) 3.5 kilometres.
(b) 7.0 kilometres.
(c) 10.5 kilometres.
(d) 14.0 kilometres.

11. The feature indicated at Point A on **Source 4** is a

(a) lake.
(b) oval.
(c) quarry.
(d) swamp.

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12. The dominant non-urban land use in the area shown in **Source 4** is

(a) agricultural.
(b) industrial.
(c) plantations.
(d) recreational.

13. The changes that have taken place in natural environments due to a variety of natural and/or human-induced causes, is a definition of

(a) biodiversity loss.
(b) land cover change.
(c) loss of ecosystem services.
(d) soil degradation.

Refer to **Source 5:** Global land cover to answer Question 14.

14. Which one of the following correctly lists the area of global land cover from largest to smallest?

(a) shrub, glaciers, freshwater, urban and built-up land
(b) livestock: meat and dairy, agriculture, forests, crops
(c) forests, livestock: meat and dairy, barren land, shrub
(d) agriculture, forests, glaciers, urban and built-up land

Refer to **Source 6:** Regional breakdown of threats to biodiversity to answer Question 15.

15. When comparing the five regions shown, which of the following statements is correct?

(a) The threat to biodiversity due to changes in land and sea use is greatest in Africa.
(b) The threat to biodiversity due to species overexploitation is greatest in Asia Pacific.
(c) The threat to biodiversity due to climate change is greatest in North America.
(d) The threat to biodiversity due to pollution is greatest in Asia Pacific.

16. Which one of the following pairs contains an environmental variable **and** a socioeconomic variable that may be used in spatial models to project changes in land cover?

(a) average temperatures and annual rainfall
(b) gross domestic product and per capita income
(c) natural resources present and population density
(d) population growth rates and level of energy consumption

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17. Urban sprawl is **best** described as the

(a) rapid expansion of the geographic extent of cities and towns, often characterised by low-density housing.
(b) rapid increase in the population of urban areas at the expense of rural and remote areas.
(c) building of urban transport routes such as freeways and commuter rail lines.
(d) building of new residential, commercial and community-based developments in the existing urban area.

Refer to **Source 7:** Percentage of the world's population living in urban areas to answer Question 18.

18. Which region is predicted to experience the **greatest** increase in the percentage of the population living in urban areas between 1990 and 2050?

(a) North America
(b) Latin America
(c) Asia
(d) Africa

Refer to **Source 8:** Australia's population distribution (Map 1 and Map 2) to answer Question 19.

19. Which of the following states' or territories' population distribution differs **most** from the national population distribution pattern?

(a) New South Wales
(b) Northern Territory
(c) South Australia
(d) Western Australia

20. Which statement **best** demonstrates the influence of land use competition in urban areas?

(a) land use density decreases toward the central business district (CBD).
(b) land use density is highest toward the rural-urban fringe.
(c) land values increase toward the rural-urban fringe.
(d) land values increase toward the CBD.

End of Section One

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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.

Refer to **Source 1:** Lilydale topographic map 2019 to answer Questions 21 to 23.

Question 21 **(2 marks)**

Within the area bordered by eastings 57 and 59, and northings 06 and 08, identify how the transport links have been influenced by site factors. Name a specific example to support your response.

Question 22 **(2 marks)**

State the latitude and longitude (in degrees and minutes) of the small dam located at GR 618189 and describe a second characteristic of its situation.

Latitude and longitude:

Second situation characteristic:

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Question 23 **(2 marks)**

Calculate how long a car travelling at an average speed of 50 kilometres an hour will take to travel along Sheffield Road from the Intersection of Pavitt Lane at GR 527099 to its end, where it meets the boundary of the National Park at GR 558143. Your answer must be in minutes and seconds.

Calculation:

Answer:

Refer to **Source 1:** Lilydale topographic map 2019 (ARs 5520 and 5620), **Source 2:** Lilydale aerial photograph 2006 and **Source 3:** Lilydale aerial photograph 2018 to answer Question 24.

Question 24 **(3 marks)**

Locate by grid reference and outline **one** example of land use change that has occurred in the area shown in **Source 2** (2006) and **Source 3** (2018).

Location by grid reference:

Example of land use change:

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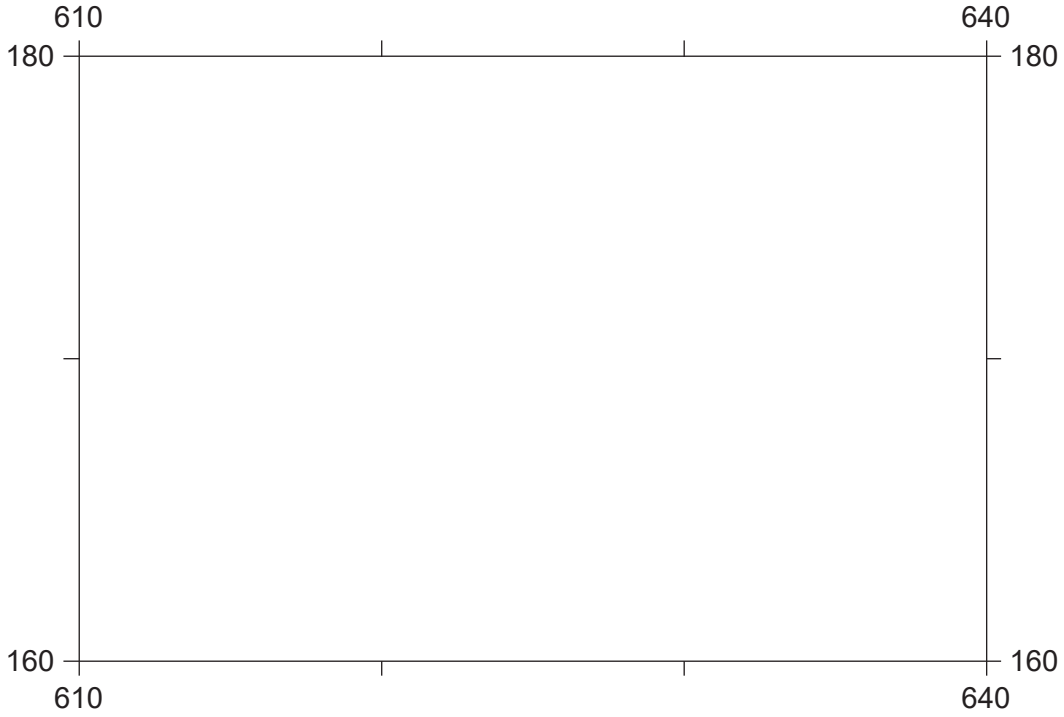
Refer to **Source 1:** Lilydale topographic map 2019 and **Source 4:** Warburton Highway aerial photograph 2018 to answer Question 25.

Question 25 **(5 marks)**

In the frame below construct an annotated sketch map of the area shown in **Source 4**.

Label the following features on your sketch map:

- Warburton Highway
- dismantled railway line
- the built-up areas
- the areas of agricultural land
- the scale of the sketch map.



Scale: _____

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Question 26 **(3 marks)**

Explain the concept of climate change.

Refer to **Source 5:** Global land cover to answer Question 27.

Question 27 **(4 marks)**

Name **one** anthropogenic biome identified in **Source 5** and explain its implications for the functioning of the world's ecosystems.

Name of anthropogenic biome: _____

Implications: _____

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Question 28 **(6 marks)**

Explain how **two** of the factors listed below have led to differences in the process of land cover change between any two countries:

- government policy
- institutional arrangements
- land ownership
- type of economy
- ideology and culture.

One: _____

Two: _____

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Refer to **Source 7:** Percentage of the world's population living in urban areas to answer Question 29.

Question 29 **(4 marks)**

With specific reference to the trends shown in **Source 7**, describe the implications of the process of urbanisation for human wellbeing.

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Refer to **Source 8:** Australia's population distribution (Map 1 and Map 2) to answer Question 30.

Question 30 **(6 marks)**

Explain how **two** of the factors below have contributed to the spatial distribution of urban and rural places in Australia:

- historical
- cultural
- economic
- environmental.

One: _____

Two: _____

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Question 31 **(3 marks)**

From the list below, explain how **one** of these challenges affects rural and remote places in Australia, including Indigenous communities.

- Population loss
- Economic restructuring
- Employment
- Housing
- Service and water provision
- Fly-in/fly-out work patterns
- Transportation
- Land use conflicts
- Isolation and remoteness
- Concentrations of socially vulnerable populations

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.

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 16–20. When you have completed Part A: Unit 3, turn to page 21.

Suggested working time: 40 minutes.

☐ **Question 32** **(20 marks)**

(a) Describe the interrelationship between land cover change and climate **or** land cover change and biodiversity loss. Make reference to specific examples to support your response. (8 marks)

(b) Assess **two** ways in which human activity has adapted, or may be required to adapt, to either global climate change **or** loss of biodiversity. (12 marks)

or

☐ **Question 33** **(20 marks)**

(a) Describe **one** approach to land cover restoration and rehabilitation with reference to the mitigation of future land cover changes. (8 marks)

(b) Assess the effects of climate change on land cover in natural **and** anthropogenic biomes **or** assess the effects of biodiversity loss in natural **and** anthropogenic biomes. (12 marks)

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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.

☐ **Question 34** **(20 marks)**

(a) Describe the site and external morphology of metropolitan Perth **or** a regional urban centre in Western Australia. (8 marks)

(b) Describe the implications of a major challenge facing a megacity you have studied and assess the extent to which **one** strategy, adopted to address this challenge, has enhanced the sustainability and liveability of the megacity. (12 marks)

or

☐ **Question 35** **(20 marks)**

(a) Describe the site and internal morphology of a megacity you have studied. (8 marks)

(b) Describe the implications of a major challenge facing metropolitan Perth **or** a regional urban centre in Western Australia and assess the extent to which **one** strategy, adopted to address this challenge, has enhanced the sustainability and liveability of the place. (12 marks)

End of questions

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ACKNOWLEDGEMENTS

Question 17 Definition from: Rafferty, J. P. (2020, October 28). Urban sprawl. *Encyclopedia Britannica*. Retrieved April, 2021, from https://www.britannica.com/topic/urban-sprawl

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