2025/4495
Web version of 2024/73365

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

ATAR course examination, 2024

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.

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	12	12	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 2024: Part II Examinations*. Sitting this examination implies that you agree to abide by these rules.

2. 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.

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

4. 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.

5. 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.

6. 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.

Refer to **Source 1**: Pemberton topographic map 2020 to answer Questions 1 to 10.

1. The scale of the Pemberton topographic map 2020 is one centimetre represents

   (a) twenty-five metres.
   (b) two hundred and fifty metres.
   (c) two-and-a-half kilometres.
   (d) twenty-five kilometres.

2. A landform feature identified as a spur is located at GR

   (a) 391208.
   (b) 403207.
   (c) 405155.
   (d) 409171.

3. The length of Conte Road from the intersection of Vasse Highway (AR 3917) to the intersection of Pemberton-Northcliffe Road (AR 3815) is

   (a) 2.8 kilometres.
   (b) 4.6 kilometres.
   (c) 10.2 kilometres.
   (d) 11.3 kilometres.

4. The latitude and longitude of Pemberton District High School at GR 415178 is closest to

   (a) 116° 03’E 34° 26’S.
   (b) 34° 18’S 116° 41’E.
   (c) 116° 03’E 34° 27’S.
   (d) 34° 27’S 116° 03’E.

5. Calculate the bearing from the fire tower located at GR 424178 to the intersection of Mullineaux Road and Golf Links Road located at GR 405197.

   (a) 45°
   (b) 135°
   (c) 315°
   (d) 345°

See next page

6. The **most** extensive cultural feature located in AR 4122 is

(a) Roche Road.
(b) an orchard, vineyard.
(c) an earth dam with dam wall.
(d) buildings.

7. The area of Big Brook in AR 3822 and AR 3922 is closest to

(a) 0.2 square kilometres.
(b) 0.5 square kilometres.
(c) 2.0 square kilometres.
(d) 2.5 square kilometres.

8. The average gradient between the spot height at GR 402219 and the spot height at GR 396222 is closest to

(a) 1:3.
(b) 1:6.
(c) 1:9.
(d) 1:12.

9. The travel time for a cyclist travelling along Vasse Highway at 15 kilometres per hour between the two intersections with Golf Links Road at GR 406184 and GR 434202 is

(a) 3 minutes and 45 seconds.
(b) 7 minutes and 15 seconds.
(c) 10 minutes and 30 seconds.
(d) 13 minutes and 0 seconds.

10. The situation of the cemetery located along northing 17 is

(a) located 1 kilometre south-east of Vasse Highway.
(b) at the crest of a hill at a height of 173 m above sea level.
(c) at the end of Dickenson Street 1.2 kilometres east of the Pemberton urban area.
(d) 1.2 kilometres north-east of Pemberton District High School.

Refer to **Source 2**: Pemberton main street photograph 2024 to answer Question 11.

11. The Pemberton main street photograph 2024 is an example of

(a) an oblique aerial photograph.
(b) a ground level photograph.
(c) a bird's eye view photograph.
(d) a low-level flat photograph.

See next page

Refer to **Source 1**: Pemberton topographic map 2020 and **Source 2**: Pemberton main street photograph 2024 to answer Question 12.

12. When taking the photograph, the photographer was standing at GR

(a) 405183 facing south-west.
(b) 406186 facing south-west.
(c) 399178 facing north-east.
(d) 401179 facing north-east.

Refer to **Source 1**: Pemberton topographic map 2020 and **Source 3**: Pemberton aerial photograph 2024 to answer Question 13.

13. The spot height closest to the location marked A is

(a) 149 meters above sea level.
(b) 159 meters above sea level.
(c) 160 meters above sea level.
(d) 168 meters above sea level.

Refer to **Source 4**: Global forest loss: deforestation and forest degradation to answer Question 14.

14. Which of the following statements **most** accurately reflects global forest loss?

(a) Permanent deforestation accounts for approximately 70% of annual tree loss.
(b) Wildfires account for a higher rate of forest degradation than shifting agriculture.
(c) Agriculture accounts for 10.8 Mha. and 51% of permanent forest degradation.
(d) Forest degradation accounts for approximately 70% of annual tree loss.

Refer to **Source 5**: Years of highest rate of land conversion to agricultural and urban land 1800 to 2010 to answer Question 15.

15. Which statement **best** describes the conversion to agricultural and urban land?

(a) North America experienced its highest rate of land conversion after the year 2000.
(b) Australia's highest rate of land conversion occurred before Europe's highest rate of land conversion.
(c) South eastern Asia experienced its highest rate of land conversion after the 1950s.
(d) All regions of Africa experienced their highest rate of land conversion during the 1900s.

See next page

Refer to **Source 6**: The conceptual model for measuring equitable, liveable and accessible places to answer Question 16.

16. The conceptual model for measuring equitable, liveable and accessible places demonstrates that

    (a) social shortfall is a result of employment disadvantage, transport inequality, social exclusion, and socio-spatial disadvantage.
    (b) ecological overshoot is a result of the equitable allocation of resources, including land, people, transport infrastructure and time.
    (c) ecological overshoot is a result of biodiversity loss and climate change and leads to an inequitable society.
    (d) social shortfall is a result of the inequitable allocation of resources, including land, people, transport infrastructure and time.

Refer to **Source 7**: Top 5 employment industries and employment by region – Western Australia 2023 to answer Questions 17 and 18.

17. The order of female employment from the highest to the lowest percentage, by region is

    (a) Greater Perth, Bunbury, Outback (North and South), Wheat Belt.
    (b) Bunbury, Greater Perth, Outback (North and South), Wheat Belt.
    (c) Bunbury, Greater Perth, Wheat Belt, Outback (North and South).
    (d) Wheat Belt, Outback (North and South), Bunbury, Greater Perth.

18. Calculate the industry with the lowest number of employees in 2019.

    (a) mining
    (b) construction
    (c) education and training
    (d) retail trade

19. Remote sensing refers to

    (a) a navigation system that collects geolocation data to record the location of land cover features on the earth’s surface.
    (b) the science of obtaining information about objects or areas from a distance, typically from aircraft or satellites.
    (c) the digital mapping process used to show the spatial distribution of a country or regions population in terms of its age, sex and income.
    (d) a computer software system for capturing, manipulating, analysing, and projecting data related to locations on the earth's surface.

See next page

20. Land use competition is characterised by

(a) competitiveness between cities that encourages the development of high-quality urban infrastructure, attracting financial capital and creating business opportunities and competition.
(b) resistance to the movement of land use functions to new locations; instead, decisions are made to keep them where they are located.
(c) the movement of people, flows of trade and investment, the purchase of goods and services, and cultural influences that create an advantage to either urban or rural places.
(d) different land use functions competing for a particular location, resulting in land value increases and land uses that can deliver the highest return on investment, locating in that location.

End of Section One

See next page

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

This section has **12** 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**: Pemberton topographic map 2020 to answer Questions 21 to 23.

Question 21 **(2 marks)**

Name the feature located at GR 396178 and identify **one** of its site characteristics.

Feature: _____

Characteristic: _____

_____

Question 22 **(3 marks)**

With reference to the area bordered by eastings 37 and 41, and northings 15 and 18, describe **one** relationship between topography and transport. Use map evidence to support your answer.

_____

_____

_____

_____

_____

_____

_____

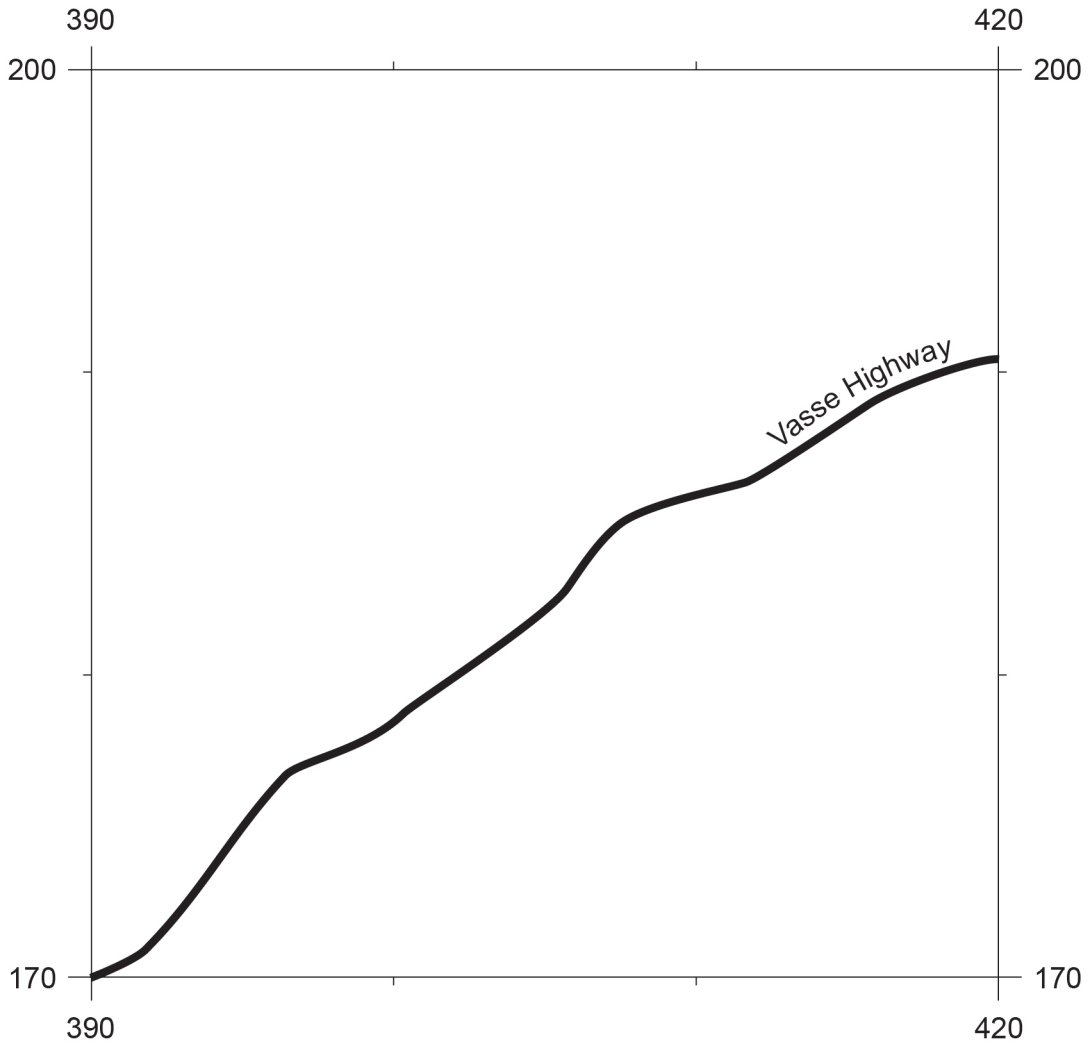
_____

_____

Question 23 **(5 marks)**

In the frame below, construct an annotated sketch map and label the following features on your sketch:

- single rail line
- the urban area
- Pemberton Forest Park
- the golf course
- the dam wall located at GR 418179.



See next page

Refer to **Source 1**: Pemberton topographic map 2020 and **Source 3**: Pemberton aerial photograph 2024 to answer Question 24.

Question 24 **(2 marks)**

(a) Identify the cultural feature at the location marked B on **Source 3**: Pemberton aerial photograph 2024. (1 mark)

(b) Calculate the length of the road marked C on **Source 3**: Pemberton aerial photograph 2024. (1 mark)

Refer to **Source 4**: Global forest loss: deforestation and forest degradation to answer Question 25.

Question 25 **(5 marks)**

(a) Describe deforestation as a process of land cover change. (2 marks)

See next page

(b) Describe **one** difference in forest degradation between **two** regions. Use data from the source to support your answer. (3 marks)

Refer to **Source 7**: Top 5 employment industries and employment by region – Western Australia 2023 to answer Question 26.

Question 26 **(3 marks)**

Describe **one** difference in employment trends from 2019 to 2023 between Greater Perth and **one** other region in Western Australia. Use data from the source to support your answer.

Question 27 **(2 marks)**

Define the concept of environment.

Question 28 **(4 marks)**

Outline the impact of growing affluence on the type and rate of land cover change using **one** example to support each answer.

Type of land cover change:

Rate of land cover change:

See next page

Question 29 **(3 marks)**

Explain the impact on land cover over time of **one** land management practice used by Aboriginal and Torres Strait Islander peoples.

Question 30 **(2 marks)**

Define the process of land use planning.

Question 31 **(3 marks)**

Outline **one** example of the environmental interdependence of urban and rural places.

See next page

Question 32 **(6 marks)**

Explain why **two** of the following each present a challenge to places located outside major cities in Australia. Use **one** example to support each answer.

- population loss
- economic restructuring
- employment
- housing
- service and water provision
- concentrations of socially vulnerable populations
- social exclusion
- transportation
- resource degradation
- land use conflicts
- declining political influence
- isolation and remoteness
- fly-in/fly-out work patterns

One: _____

Two: _____

End of Section Two

See next page

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 33 and 34. Part B: Unit 4 consists of Questions 35 and 36. 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 33 **or** Question 34.

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.

☐ **Question 33** **(20 marks)**

(a) Describe the key elements of **two** of the following natural systems:

- heat budget, including the greenhouse effect
- hydrological cycle
- carbon cycle
- atmospheric circulation.

or

Describe the key elements of ecosystem structure and dynamics, including:

- food chains and webs
- biomass
- trophic levels
- flows of matter and energy. (8 marks)

(b) Discuss how **two** strategies aim to mitigate either global climate change **or** loss of biodiversity. (12 marks)

OR

☐ **Question 34** **(20 marks)**

(a) Describe **one** major type of evidence through geological time and **one** major type of evidence in recent human history for either climate change **or** loss of biodiversity. (8 marks)

(b) Evaluate **one** strategy designed to address the impacts of land cover change, using the social **and** economic factors of sustainability. (12 marks)

See next page

Question number: _____

See next page

See next page

See next page

See next page

See next page

Part B: Unit 4 **20% (20 Marks)**

Choose **either** Question 35 **or** Question 36.

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 35** **(20 marks)**

(a) Describe the views of **two** stakeholder groups related to **one** challenge for either metropolitan Perth **or** a regional urban centre in Western Australia. (8 marks)

(b) Evaluate the extent to which **one** planning strategy used to address **one** challenge in a megacity, has or will enhance the place's liveability. (12 marks)

OR

☐ **Question 36** **(20 marks)**

(a) Describe the internal **and** external morphology of a megacity. (8 marks)

(b) Evaluate the extent to which **one** planning strategy used to address **one** challenge in either metropolitan Perth **or** a regional urban centre in Western Australia, has or will enhance the place's liveability. (12 marks)

End of questions

Question number: _____

Supplementary page

Question number: _____

Supplementary page

Question number: _____

Supplementary page

Question number: _____

Supplementary page

Question number: _____

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