



Western Australian Certificate of Education Examination, 2010

Question/Answer Booklet

GEOGRAPHY

Stage 2

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
Multiple-choice Answer Sheet
Broadsheet

To be provided by the candidate

Standard items: pens, pencils, eraser, correction fluid/tape, ruler, highlighters

Special items: coloured pencils, dividers, drawing compass, string, protractor, non-programmable calculators satisfying the conditions set by the Curriculum Council for this course

Note: Atlases not permitted

Section 2: Parts A & B			
Place ticks in boxes to indicate the questions you answered			
Part A			
Q 31	<input type="checkbox"/>	or	Q 32 <input type="checkbox"/>
Part B			
Q 33	<input type="checkbox"/>	or	Q 34 <input type="checkbox"/>

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	10	10	60	30	30
Section Three Part A: Extended response	2	1	90	50	50
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 2010*. 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, do not erase or use correction fluid, and shade your new answer. 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 answers in this Question/Answer Booklet.

- Wherever possible, candidates 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(s) that you are continuing to answer at the top of the page.

See next page

Section One: Multiple-choice

20% (20 Marks)

This section has **twenty (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, do not erase or use correction fluid, and shade your new answer. 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.

Examine **Source 1: Glass House Mountains Topographic Map** and **Source 2: Glass House Mountains Aerial Photograph** on side one of the Broadsheet, then answer questions 1–10.

1. The Glass House Mountains topographic map extract contains two sets of contours – one set shown in brown lines and one in black lines. The interval between the black contours is
 - (a) 5 metres.
 - (b) 10 metres.
 - (c) 25 metres.
 - (d) 50 metres.

2. Which one of the following statements correctly describes the scale of the Glass House Mountains topographic map?
 - (a) One centimetre represents 250 metres.
 - (b) One centimetre represents 25 000 metres.
 - (c) One centimetre equals 25 000 centimetres.
 - (d) One centimetre represents 2 500 centimetres.

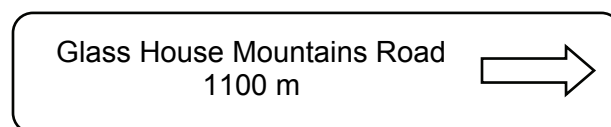
3. A train and a car enter the map area at GR 957220 and GR 958220 respectively. They are both travelling at an average speed of 100 kilometres per hour.

They exit the map area at northing 276. Which one of the following is true?

 - (a) The car and the train exit the map area at the same time.
 - (b) The train exits the map area before the car.
 - (c) The car exits the map area before the train.
 - (d) It is not possible to determine which one exits first.

4. The bearing of Mount Cooee (GR 952225) from Ngungun (GR 936246) is
 - (a) 090°
 - (b) 115°
 - (c) 130°
 - (d) 145°

5. The dominant land use in grid square 9322 is
- (a) native forest.
 - (b) pine plantations.
 - (c) orchards, vineyards or plantations.
 - (d) farming.
6. The latitude and longitude of the caravan park found at GR 958232 is
- (a) $26^{\circ} 55' S$ $152^{\circ} 58' E$.
 - (b) $25^{\circ} 55' S$ $152^{\circ} 58' E$.
 - (c) $26^{\circ} 55' S$ $153^{\circ} 02' E$.
 - (d) $25^{\circ} 55' S$ $153^{\circ} 02' E$.
7. The direction of the flow of the stream at GR 938258 is
- (a) east.
 - (b) south-south-west.
 - (c) south.
 - (d) west.
8. The landform at GR 950220 is a
- (a) spur.
 - (b) re-entrant.
 - (c) escarpment.
 - (d) knoll.
9. Which one of the following locations specified below is closest to sea level?
- (a) Mount Cooee in grid square 9522
 - (b) car park in grid square 9324
 - (c) building at GR 953271
 - (d) pine plantation in grid square 9525
10. A car is at a road junction showing the following sign



Which one of the following grid references best describes the location of the car?

- (a) GR 973235
- (b) GR 971235
- (c) GR 963237
- (d) GR 977235

11. The layer immediately below the earth's crust is known as the
- (a) lithosphere.
 - (b) mantle.
 - (c) core.
 - (d) asthenosphere.

Examine **Source 3: Major Tectonic Plates** on side two of the Broadsheet, then answer questions 12 and 13.

12. The boundary between the African Plate and the South American Plate represents the process of
- (a) subduction.
 - (b) convection.
 - (c) sea floor spreading.
 - (d) convergence.
13. Which of the following best describes the plate movement at the boundary between the Pacific Plate and the North American Plate?
- (a) converging on all boundaries
 - (b) diverging on the north-east boundary and sliding on the north-west boundary
 - (c) sliding on the north-west boundary and converging on the north-east boundary
 - (d) sliding on the north-east boundary and converging on the north-west boundary

Examine **Source 4: The Earth's Energy Budget** on side two of the Broadsheet, then answer questions 14 and 15.

14. According to **Source 4**, what percentage of incoming solar radiation is reflected or absorbed before it reaches the earth's surface?
- (a) 26%
 - (b) 30%
 - (c) 45%
 - (d) 70%
15. The most important aspect of the earth's energy budget as shown in **Source 4** is that
- (a) incoming solar radiation must equal outgoing energy.
 - (b) there is always a deficit of energy that is lost from the atmosphere.
 - (c) the amount of energy lost or retained varies on a yearly basis.
 - (d) there is always a surplus of energy that is retained in the atmosphere.
16. Which of the following are all renewable resources?
- (a) solar energy, fish farming, plantation timber
 - (b) nuclear energy, wheat farming, soils
 - (c) tidal energy, coal, old growth forests
 - (d) dairy farming, natural gas, fresh water

17. Ancient Aboriginal rock carvings found near the site of a non-renewable resource activity are best characterised as which type of resource?
- (a) natural resource
 - (b) human resource
 - (c) renewable resource
 - (d) cultural resource

Examine **Source 5: Global Depletion Rates for Selected Resources** on side two of the Broadsheet, then answer questions 18 and 19.

18. Which of the pairs of resources listed below is most likely to last more than 70 years at current rates of consumption?
- (a) silver and tin
 - (b) natural gas and oil
 - (c) nickel and coal
 - (d) uranium and nickel
19. Which of the following strategies could be used to extend the supply of many of the resources shown in **Source 5**?
- (a) recycling of materials produced using these resources
 - (b) more efficient use of these resources
 - (c) exploiting new reserves of these resources
 - (d) all of the above
20. When examining the exploitation of a renewable resource as a system, which of the following would be classified as a cultural input?
- (a) soils
 - (b) labour
 - (c) market-place
 - (d) climate

End of Section One

See next page

Section Two: Short response**30% (30 Marks)**

This section has **ten (10)** 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(s) that you are continuing to answer at the top of the page.

Suggested working time: 60 minutes.

Examine the **Source 1: Glass House Mountains Topographic Map** and **Source 2: Glass House Mountains Aerial Photograph** on side one of the Broadsheet, then answer questions 21–24.

Question 21**(1 mark)**

Estimate the scale of the aerial photograph shown in **Source 2**.

Question 22**(1 mark)**

Describe **one** difference in the cultural landscape between the eastern and western sides of Glass House Mountains Road.

Question 23**(2 marks)**

Calculate the gradient of the northern slope of Mount Cooee (grid square 9522) between the peak and Barrs Road. Show all of your working.

See next page

Question 24

(6 marks)

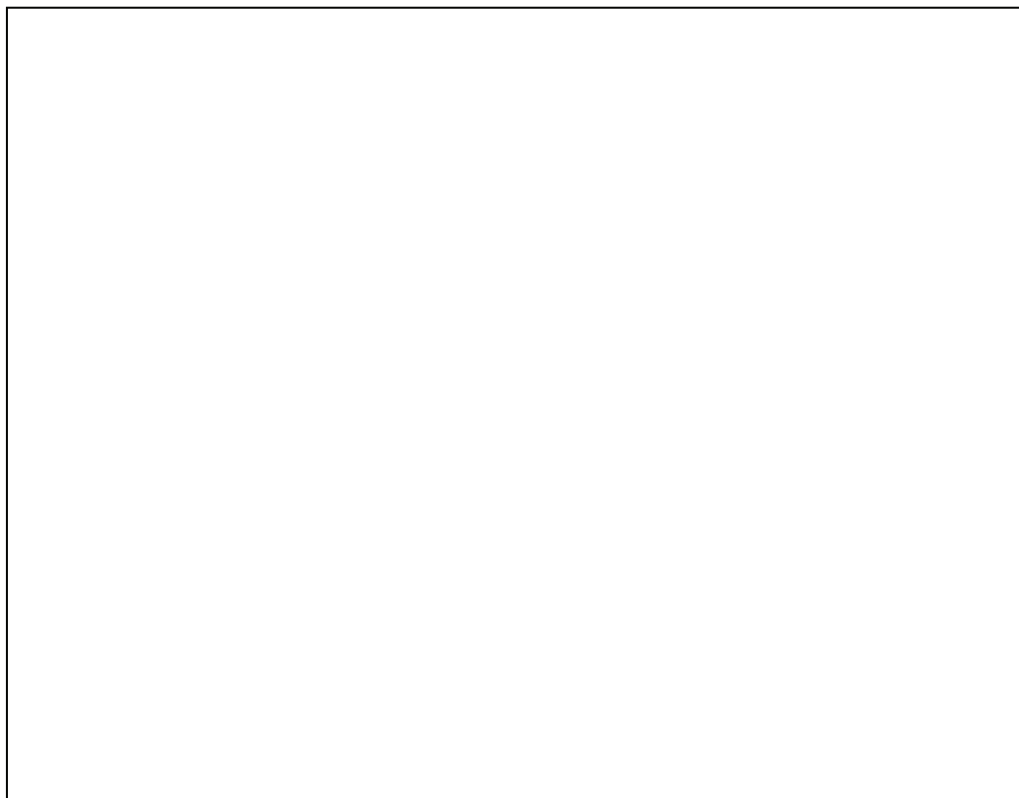
Examine the information provided in **Source 1** and **Source 2** then use the frame below to construct a sketch map to show the following:

Primary Roads
State Forest

Settlement
Cleared Land

Include the common map elements of title, scale, north point and a key/legend on your sketch map.

Title: _____



Scale: _____

Question 25

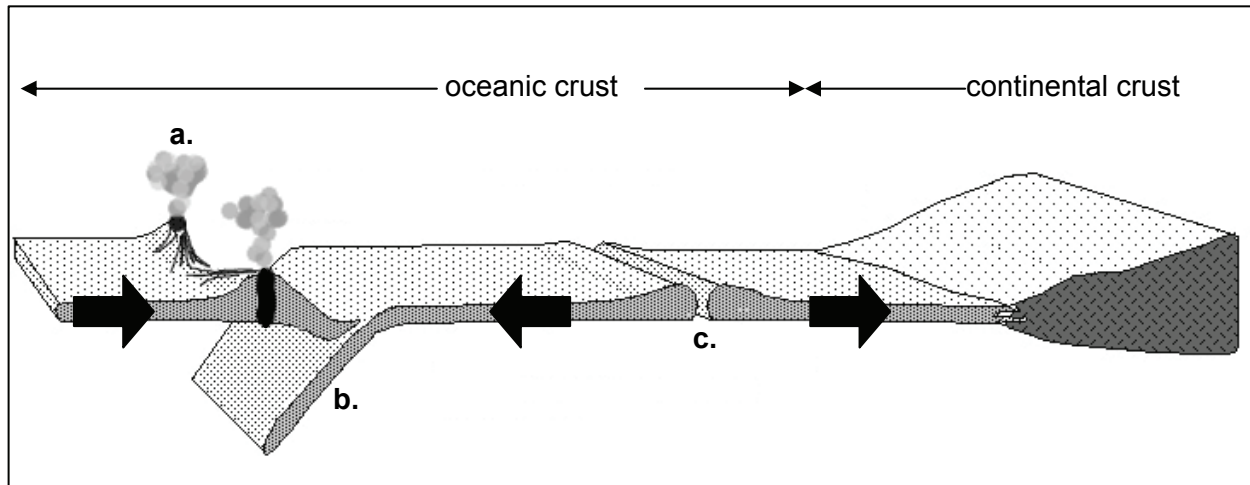
(4 marks)

Explain the difference between a geomorphic/tectonic hazard and an atmospheric hazard.
Refer to specific hazards you have studied.

Question 26

(6 marks)

Name the landform and/or tectonic process at each of the locations (a, b and c) in the diagram below and explain what is happening at each of these locations.



a. _____

b. _____

c. _____

Question 27

(4 marks)

Examine **Source 6: Australia's Wind Resources** on side two of the Broadsheet.

- (a) Describe the distribution of Australia's wind farms. (2 marks)

- (b) Account for the distribution you have described in part (a) above by referring to one physical and one cultural factor that appear to have influenced the location of Australia's wind farms. (2 marks)

Physical factor:

Cultural factor:

Question 28

(2 marks)

Name a resource activity you have studied. _____

Name and describe **two** groups of stakeholders and their respective viewpoints on sustainable practices for your chosen resource activity.

Stakeholder group one:

Stakeholder group two:

Question 29

(2 marks)

Explain the difference between 'renewable' and 'non-renewable' resources.

Question 30

(2 marks)

Explain the concept of sustainability in relation to resource use.

End of Section Two

See next page

Section Three: Extended response**50% (50 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 in the spaces provided.

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Suggested working time: 90 minutes.

Part A: Unit 2A – Geography of natural hazards and impact minimisation**Answer either question 31 or 32**

Question 31**(25 marks)**

- (a) Identify a geomorphic/tectonic hazard you have studied.
- (i) Refer to **Source 3: Major Tectonic Plates** and describe the global distribution pattern of your chosen geomorphic/tectonic hazard. (5 marks)
- (ii) Account for the distribution of your chosen geomorphic/tectonic hazard by referring to the theory of plate tectonics. (8 marks)
- (b) Identify an atmospheric hazard you have studied. Discuss the impact of your chosen atmospheric hazard on the human environment, and the short-term and longer-term human responses used to deal with this impact.
- Your answer should include a discussion of the short-term (rescue and relief) and longer-term (reconstruction and restoration) measures used by individuals, communities and/or governments to deal with the impacts of your chosen atmospheric hazard. (12 marks)

or

Question 32**(25 marks)**

- (a) Identify an atmospheric hazard you have studied.
- (i) Explain the atmospheric processes that lead to the formation of your chosen atmospheric hazard. (5 marks)
- (ii) Describe and account for the characteristics of your chosen atmospheric hazard by referring to its magnitude, duration, frequency and intensity. (8 marks)
- (b) Identify a geomorphic/tectonic hazard you have studied. Discuss the impact of your chosen geomorphic/tectonic hazard on the human environment, and the short and longer-term human responses used to deal with this impact.
- Your answer should include a discussion of the short-term (rescue and relief) and longer-term (reconstruction and restoration) measures used by individuals, communities and/or governments to deal with the impacts of your chosen geomorphic/tectonic hazard. (12 marks)

See next page

Part B: Unit 2B – Geography of sustainable resource use**Answer either question 33 or 34**

Question 33**(25 marks)**

- (a) Identify a non-renewable resource activity in Australia that you have studied.
- (i) Explain the physical and cultural factors affecting its location. (5 marks)
- (ii) Using a systems model to identify the relevant inputs, throughputs and outputs, describe the development and use of your chosen non-renewable resource. (8 marks)
- (b) Identify a renewable resource activity in Australia and a renewable resource activity in a Less Developed Country (LDC) that you have studied.

Evaluate the long-term sustainability of this renewable resource activity and its associated natural environment in **both** countries.

Your answer should include reference to specific examples of influences on sustainable resource utilisation and its impact on the natural environment, drawn from case studies in both countries. (12 marks)

or**Question 34****(25 marks)**

- (a) Identify a renewable resource activity in Australia that you have studied.
- (i) Explain the physical and cultural factors affecting its location. (5 marks)
- (ii) Discuss how the environmental impacts of this renewable resource activity have changed over time. (8 marks)
- (b) Identify a non-renewable resource activity in Australia and a non-renewable resource activity in a Less Developed Country (LDC) that you have studied.

Evaluate the current management practices associated with natural environments for your chosen non-renewable resource activity in **both** countries.

Your answer should include reference to specific examples of influences on sustainable resource utilisation drawn from case studies in both countries. (12 marks)

End of questions

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