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

GEOGRAPHY

ATAR course examination 2023

Marking Key

Marking keys are an explicit statement about what the examining panel expect of candidates when they respond to particular examination items. They help ensure a consistent interpretation of the criteria that guide the awarding of marks.

Section One: Multiple-choice **20% (20 Marks)**

Question	Answer
1	a
2	b
3	d
4	b
5	a
6	d
7	c
8	b
9	a
10	c
11	d
12	a
13	c
14	a
15	d
16	b
17	d
18	c
19	a
20	b

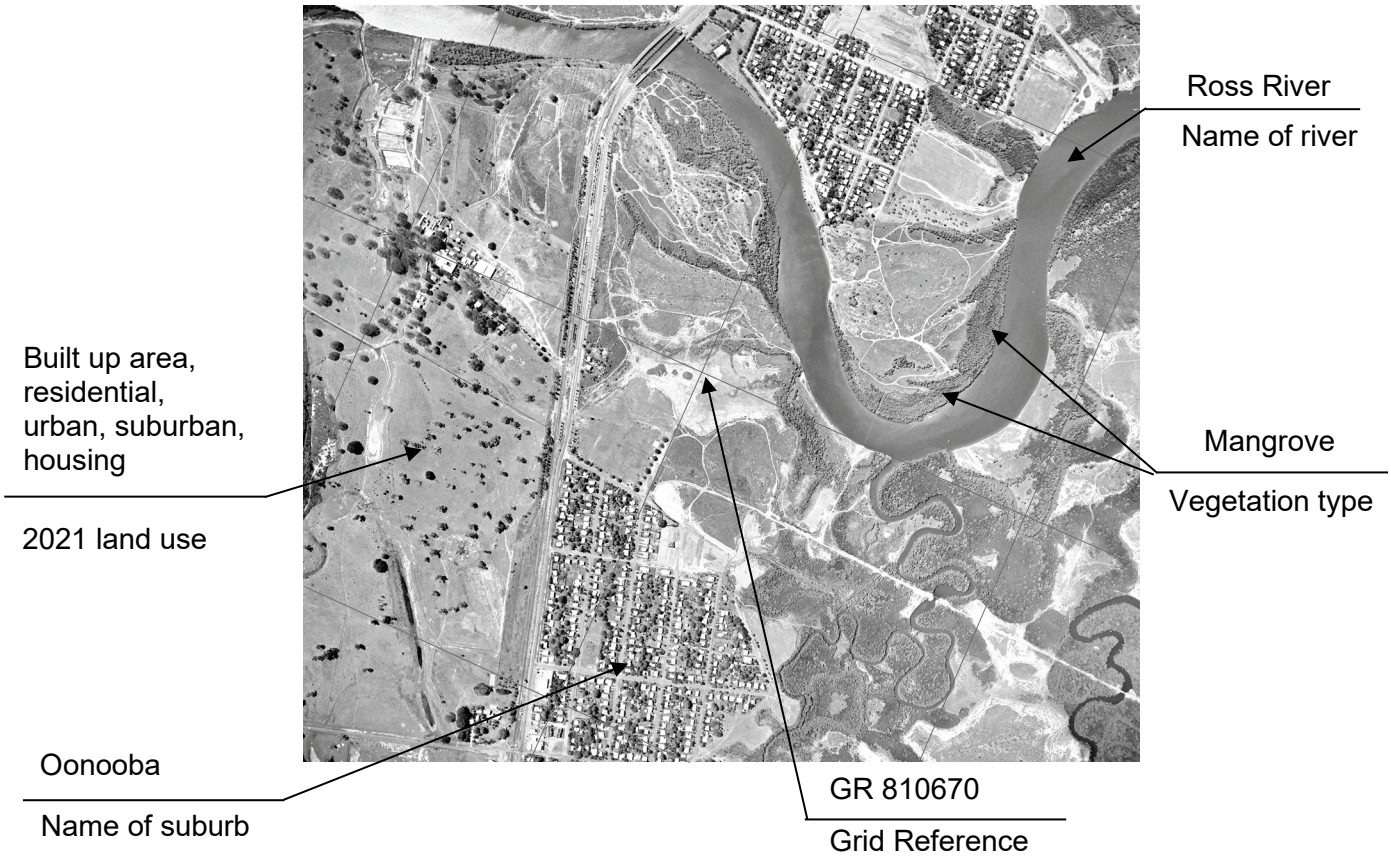
Section Two: Short response **40% (40 Marks)**

Question 21 **(6 marks)**

(a) Label the following features on the aerial photograph below. (5 marks)

Description	Marks
For each (5 x 1 mark)	
Identifies the feature	1
Total	**5**

Townsville aerial photograph 1995



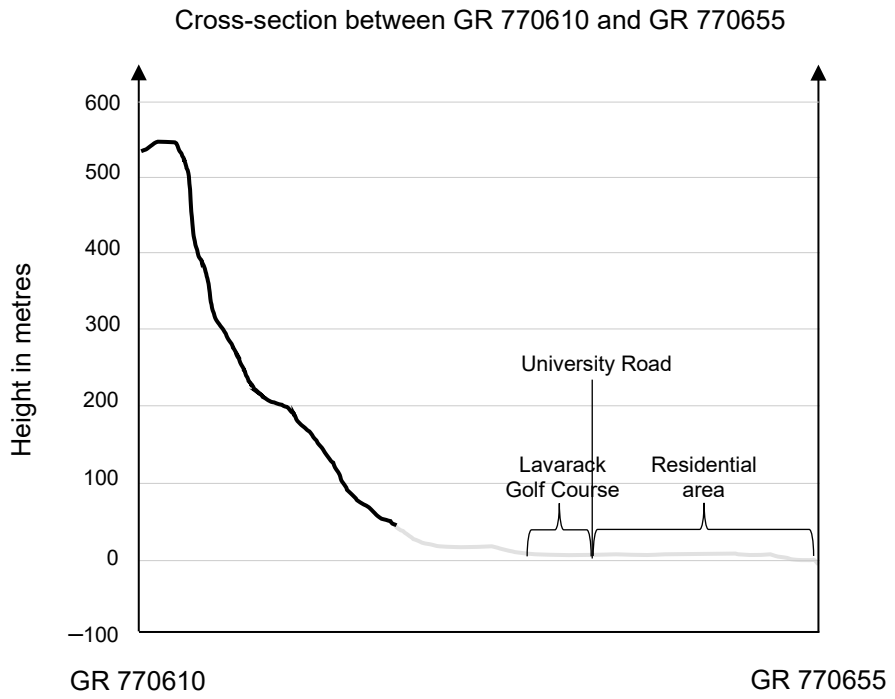
(b) Identify whether **Source 1** Townsville topographic map 2021 or Townsville aerial photograph 1995 (above) has the larger scale. (1 mark)

Description	Marks
Townsville aerial photograph 1995	1
Total	**1**

Question 22 **(6 marks)**

(a) Complete the cross-section extending from GR 770610 to GR 770655. (2 marks)

Description	Marks
Completes the cross-section to a highly accurate level in relation to variations in height, slope and relief of the land in the area indicated	2
Completes the cross-section to a reasonably accurate level in relation to variation in height, slope and relief. May contain some small variations or errors	1
Total	**2**



(b) Annotate the following features on the cross-section above. (3 marks)

- University Road
- Lavarack Golf Course
- Residential area

Description	Marks
For each feature on the cross-section (3 x 1 mark)	
Locates and correctly labels the feature	1
Total	**3**

(c) Identify the overall shape of the slope from the peak of Mt Stuart to GR 770628. (1 mark)

Description	Marks
Concave slope (must use correct terminology)	1
Total	**1**

Question 23 **(2 marks)**

Define the concept of climate change.

Description	Marks
Defines the concept of climate change, including reference to at least two of; space, time and variability	2
Defines the concept of climate change, including reference to one of; space, time or variability	1
Total	**2**

Answers could include:

Climate change is a long term change in the statistical distribution of weather patterns over periods of time that range from decades to millions of years. It may be a change in the average weather condition or the distribution of weather events with respect to an average. Variations in temperature may result in either global cooling or global warming. Climate change may be limited to a specific region or may occur across the whole earth.

Accept other relevant answers.

Question 24 **(3 marks)**

With specific reference to **Sources 4a and 4b**, describe the expansion of agriculture as a process of land cover change.

Description	Marks
Describes the expansion of agriculture as a process of land cover change and uses relevant data from both sources to support their answer	3
Outlines the expansion of agriculture as a process of land cover change and uses relevant data from either source to support their answer	2
Makes a generalised statement about the expansion of agriculture as a process of land cover change with limited, or no reference to the sources	1
Total	**3**

Answers could include:

Expansion refers to an increase in area used for production.

Examples from the sources could include:

- between 1993 and 2006, parts of the Victorian, New South Wales and Queensland coastal strip have experienced more that a 10% increase in area used for grazing animals
- areas of the midwest of Australia have experienced animal grazing land use increase by up to 10% between 1993 and 2006
- between 1993 and 2006, most of the south west of Western Australia has experienced up to a 10% increase in land used for cropping, while the same areas have had a decrease of up to 10% in grazing land
- almost all of Victoria experienced an increase in land used for cropping, with large parts experiencing an increase of more than 10%.

Accept other relevant answers.

Question 25 **(6 marks)**

Outline how **two** of the following factors account for difference in land cover change between **two** countries:

- government policy
- ideology
- land ownership
- type of economy
- culture.

Description	Marks
For each of the two factors (2 x 3 marks)	
Outlines how the factor has led to differences in land cover change between two countries. Uses relevant examples	3
Outlines a factor that has led to differences in land cover change between two countries. Uses some general examples	2
Makes a generalised statement about land cover change in two countries. Uses limited or no examples	1
Total	**6**

Answers could include:

Government policy:
Both Australia and Brazil have policy controls on deforestation, however these vary. Those in Brazil which were reformed and passed in parliament by a large majority could see large areas of the Amazon forests opened up to agriculture and cattle ranching and will provide an amnesty for the illegal deforestation that occurred prior to 2008. In Australia, all states and territories are signatories to the 1992 National Forest Policy statement which provides a framework for sustainable forestry management. Therefore, deforestation has occurred at a faster rate in Brazil, with 8.1% of primary forests removed between 2001 and 2021. Whereas Australia's policies are stricter and deforestation is therefore occurring at a slower a rate with 0.49% of primary forests removed between 2001 and 2021.

Accept other relevant answers.

Note: for answers which only refer to one country, no marks should be awarded, since the question refers to differences between two countries.

Question 26 **(3 marks)**

Explain **one** of the following impacts of land cover change:

- changes to the water cycle
- soil erosion and degradation
- loss of habitat and biodiversity
- loss of ecosystem services
- the degradation of aquatic and marine environments
- urban heat islands.

Description	Marks
Explains the impact of land cover change	3
Describes the impact of land cover change	2
Makes a generalised statement about the impact of land cover change	1
Total	**3**

Answers could include:

- changes to the water cycle – the removal of vegetation for agriculture can cause climate change, which subsequently can cause floods and droughts, leading to erosion and desertification
- the degradation of aquatic and marine environments – excess atmospheric carbon contributes to climate change and subsequently causes oceans to warm and ocean acidification to occur, leading to species' decline and ecosystem collapse
- loss of ecosystem services – the removal of vegetation, which sequesters carbon from the atmosphere providing a climate regulation function, leads to an increase in climate change.

Accept other relevant answers.

Question 27 **(4 marks)**

Outline **one** changing age demographic characteristic and **one** changing gender demographic characteristic in urban or rural places in Australia.

Description	Marks
For each characteristic (2 x 2 marks)	
Outlines a changing age/gender demographic characteristic in urban or rural places in Australia	2
Makes a generalised statement about an age/gender demographic characteristic in urban or rural places in Australia	1
Total	**4**

Answers could include:

Age:

- younger people aged 20 to 29 are subject to push/pull factors, such as education, employment and socio-cultural opportunities and, once established, they tend to stay in urban places
- rural places are contracting in size with an imbalance of older people remaining
- sea change/tree change towns are attracting a higher number of older retirees
- urban places have more 20 to 44 year olds, while other age brackets are being attracted to smaller urban places and rural places
- the median age for capital cities in Australia is 37 years of age while in regional Australia it is 42 years of age
- capital cities had fewer people 55 years and over (26%) than in the remainder of Australia (34%).

Gender:

- there is an increasing ratio of females aged 85 years and older in cities compared to males
- there is an increasing ratio of males to females in rural places
- capital cities have a ratio of 100 females to 98.2 men while the remainder of Australia has a higher ratio of men with 100 females to 99.2 males.

Accept other relevant answers.

Note: variations and exceptions occur in each of these across Australia.

Question 28 **(6 marks)**

Describe **one** historical and **one** environmental factor that has contributed to the spatial distribution of urban and rural places in Australia. Provide an example of each to support your answer.

Description	Marks
For each factor (2 x 3 marks)	
Describes a factor that has contributed to the spatial distribution of urban and rural places in Australia. Provides a relevant example	3
Outlines a factor that has contributed to the spatial distribution of urban and/or rural places in Australia. Provides a general example	2
Makes a generalised statement about a factor that has contributed to the spatial distribution of urban and/or rural places in Australia. Uses limited or no examples	1
Total	**6**
Answers could include: • environmental factors include – site, water availability, precipitation patterns • historical factors – British agricultural systems, capital cities built on rivers that were used for transport; early settlers didn't have the skills to live outside cities; cities were export distribution points.	
Accept other relevant answers.	
Note: the description of each factor can treat urban and rural places either collectively or separately.	

Question 29 **(4 marks)**

Identify **one** liveability factor and describe the patterns of its performance within **both** metropolitan Perth and regional Western Australia.

Description	Marks
For each of metropolitan Perth and regional Western Australia (2 x 2 marks)	
Describes the patterns of the liveability factor's performance within the area	2
Makes a generalised statement about the patterns of the liveability factor's performance	1
Total	**4**

Answers could include:

Affordable decent housing

Metropolitan Perth
Affordable decent housing in metropolitan Perth performs in the top third of Australian Metropolitan areas with a score of 5.7 compared to Australian Metropolitan areas with a score of 5.1. Except for the inner areas, all regions within Perth fall within the top third, while the inner area ranks in the middle third for affordable decent housing.

Regional Western Australia
Affordable decent housing in regional Western Australia performs in the bottom two thirds of Australian Metropolitan areas for affordable decent housing when compared to Australia. No region performs in the top third, although the overall score of 4.8 is equal to that of regional Australia. Bunbury and the Wheatbelt perform in the middle third, while outback areas in the north and south perform in the bottom third; however, a small sample size renders this data unreliable.

Reliable and efficient public transport

Metropolitan Perth
Reliable and efficient public transport in metropolitan Perth performs in the middle third with a score of 6.4 which is equal to the Metropolitan Australian score. The Inner areas as well as North-West and South West areas perform in the top third for reliable and efficient public transport; however, the South Eastern area and Mandurah perform in the middle third, while the North-Eastern area performs in the bottom third.

Regional Western Australia
Reliable and efficient public transport in regional Western Australia performs in the bottom third and performs lower (3.6) than regional Australia (4.3). The Bunbury region performs in the middle third, while the Wheatbelt region performs in the bottom third. Outback regions in the south performed in the top third; however, a small sample size renders this data unreliable.

Accept other relevant answers.

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

Question 30 **(20 marks)**

(a) Describe the interrelationships between land cover change and climate, including changes to surface reflectivity (albedo) and the process of natural carbon sequestration.

or

Describe the interrelationships between land cover change and biodiversity loss, including shifting ecological boundaries, evolutionary diversification and species extinction. (8 marks)

Description	Marks
For climate change: Describes the interrelationships between land cover change and climate, including changes to surface reflectivity (albedo) and the process of natural carbon sequestration For biodiversity loss: Describes the interrelationships between land cover change and biodiversity loss, including shifting ecological boundaries, evolutionary diversification and species extinction Presents a wide range of appropriate supporting evidence and examples to develop and strengthen the description. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	7–8
For climate change: Describes briefly the interrelationships between land cover change and climate, including changes to surface reflectivity (albedo) and the process of natural carbon sequestration For biodiversity loss: Describes briefly the interrelationships between land cover change and biodiversity loss, including shifting ecological boundaries, evolutionary diversification and species extinction Presents a range of appropriate supporting evidence and examples to develop and strengthen the description. Applies relevant geographical terminology and concepts to develop a cohesive response	5–6
For climate change: Outlines the relationships between land cover change and climate, including changes to surface reflectivity (albedo) and/or the process of natural carbon sequestration For biodiversity loss: Outlines the relationships between land cover change and biodiversity loss, including shifting ecological boundaries and/or evolutionary diversification and species extinction Presents some relevant evidence and examples to support the outline. Uses some relevant geographical terminology and concepts	3–4

Question 30 (continued)

For climate change: Makes generalised statements about the relationships between land cover change and climate, including changes to surface reflectivity (albedo) and/or the process of natural carbon sequestration For biodiversity loss: Makes generalised statements about the relationships between land cover change and biodiversity loss, including shifting ecological boundaries and/or evolutionary diversification and species extinction Limited or no use of geographical terminology and concepts, in a largely unstructured response	1–2
Total	**8**

Answers could include:

For climate change:
Descriptions should demonstrate the bi-directional nature of feedback loops associated with land cover change (albedo) and climate change and the natural process of carbon sequestration.

For biodiversity loss:
Descriptions should demonstrate the bi-directional nature of feedback loops associated with land cover change (biodiversity loss) and shifting ecological boundaries, evolutionary diversification and species extinction.

Accept other relevant answers.

(b) Explain **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)

Description	Marks
For each of two ways of adaptation (2 x 6 marks)	
Explains a way in which human activity has adapted, or may be required to adapt, to either global climate change or loss of biodiversity Presents a wide range of appropriate supporting evidence and examples to develop and strengthen the explanation. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	5–6
Describes a way in which human activity has adapted, or may be required to adapt, to either global climate change or loss of biodiversity Presents some supporting evidence and examples to develop and strengthen the description. Applies relevant geographical terminology and concepts to develop a cohesive response	3–4
Makes generalised statements about a way in which human activity has adapted, or may be required to adapt, to either global climate change or loss of biodiversity Limited evidence to support statements and generalisations. Limited or no use of geographical terminology and concepts in a largely unstructured response	1–2
Total	**12**

Answers could include:

Adaptation is an alteration or adjustment in response to a changed environment. It refers to actions undertaken to live with a new set of conditions rather than to reverse or stop changes that have occurred.

Answers may use environmental and/or economic and/or social benefits and costs to frame their explanation.

Answers for climate change could include:
- alternative agricultural practices and varieties
- alternative transportation infrastructure to allow for network disruptions
- development of alternative fuel sources to allow for supply disruptions
- securing alternative water supplies
- responding to sea level rise in coastal zones.

Answers for loss of biodiversity could include:
- breeding programs
- conservation strategies
- preservation strategies
- changes in primary industry practices
- gene and seed banks.

Accept other relevant answers.

Question 31 **(20 marks)**

(a) Describe **one** present or projected impact of either climate change **or** biodiversity loss in **one** natural and **one** anthropogenic environment. (8 marks)

Description	Marks
For each of the two environments (2 x 4 marks)	
Describes one present or projected impact of either climate change or biodiversity loss in a natural or anthropogenic environment Presents a wide range of appropriate supporting evidence and examples to develop and strengthen the description. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	4
Describes briefly one present or projected impact of either climate change or biodiversity loss in a natural or anthropogenic environment Presents a range of appropriate supporting evidence and examples to develop and strengthen the description. Applies relevant geographical terminology and concepts to develop a cohesive response	3
Outlines one present or projected impact of either climate change or biodiversity loss in a natural or anthropogenic environment Presents some relevant evidence and examples to support the outline. Uses some relevant geographical terminology and concepts	2
Makes generalised statements about one present or projected impact of either climate change or biodiversity loss in a natural or anthropogenic environment Limited or no use of geographical terminology and concepts, in a largely unstructured response	1
Total	**8**

Answers could include:

For climate change in natural environments:
- increased frequency of extreme weather events, such as heat waves leading to bush fires
- extinction due to the inability of species to adapt and subsequent biodiversity loss
- changes to ocean currents/acidification due to ocean warming.

For climate change in anthropogenic environments:
- significant changes to hydrological processes resulting in lower availability of freshwater
- increases or decreases in yield in some rain fed crops
- human health impacts from extreme weather events, such as heat waves.

For loss of biodiversity in natural environment:
- loss of ecosystem regulation and stability and a reduction in the productivity of an ecosystem
- species extinction leading to a reduction in genetic diversity and species' resilience
- changing microclimates of areas/regions.

For loss of biodiversity in anthropogenic environments:
- loss of ecosystem services including provisioning and regulating services, such as water filtration and carbon sequestration
- increases in contact between humans and wild animals exposing humans to infectious diseases
- economic costs of managing land degradation, and increased pest and disease control in agricultural areas.

Accept other relevant answers.

(b) Explain **two** strategies designed to address the impacts of land cover change on local and/or regional environments. (12 marks)

Description	Marks
For each strategy (2 x 6 marks)	
Explains a strategy designed to address the impacts of land cover change on local and/or regional environments Presents a wide range of appropriate supporting evidence and examples to develop and strengthen the explanation. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	5–6
Describes a strategy designed to address the impacts of land cover change on local and/or regional environments Presents some supporting evidence and examples to develop and strengthen the description. Applies relevant geographical terminology and concepts to develop a cohesive response	3–4
Makes generalised statements about a strategy designed to address the impacts of land cover change on local and/or regional environments Limited evidence to support statements and generalisations. Limited or no use of geographical terminology and concepts in a largely unstructured response	1–2
Total	**12**

Answers could include:

The selected strategies can be designed by local or state governments, by corporations or conservation groups or by any combination of these and they can be of varying spatial scales from the purely local to the sub-national. Responses should clearly indicate what impacts of land cover change the strategies are addressing.

Strategies to address the impacts of land cover change may include:

- forestry programs, e.g. *Djarlma Plan for the Western Australian Forestry Industry. A framework for action 2019–2030*
- environmental rehabilitation programs, e.g. *Rehabilitation Plan Project Atlas and the Atlas Stage 3 Project*
- environmental protection programs, e.g. *Bindjareb Djilba (Peel-Harvey estuary) Protection Plan: A plan for the protection of the Peel-Harvey estuary*
- economic initiatives aimed at reducing LCC impacts or rehabilitating land, e.g. *Native vegetation policy for Western Australia May 2022*
- urban consolidation/infill initiatives, e.g. *Perth and Peel @ 3.5 million / Development Control Policy 1.6 Planning to Support Transit Use and Transit Oriented Development 31 August 2021*
- intensification of agriculture/improvements in agricultural technologies – technologies that facilitate intensification of agricultural production with clear links to how they address land cover change.

Accept other relevant answers.

Question 32 **(20 marks)**

(a) Explain the causes and impacts of **one** challenge facing metropolitan Perth **or** a regional urban centre in Western Australia. (8 marks)

Description	Marks
Explains the causes and impacts of one challenge facing metropolitan Perth or a regional urban centre in Western Australia Presents a wide range of appropriate supporting evidence and examples to develop and strengthen the explanation. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	7–8
Explains briefly the causes and impacts of one challenge facing metropolitan Perth or a regional urban centre in Western Australia Presents a range of appropriate supporting evidence and examples to develop and strengthen the explanation. Applies relevant geographical terminology and concepts to develop a cohesive response	5–6
Describes the causes and/or impacts of one challenge facing metropolitan Perth or a regional urban centre in Western Australia Presents some relevant evidence and examples to support the description. Uses some relevant geographical terminology and concepts	3–4
Makes generalised statements about the causes and/or impacts of one challenge facing metropolitan Perth or a regional urban centre in Western Australia Limited or no use of geographical terminology and concepts, in a largely unstructured response	1–2
Total	**8**

Answers could include:

Only accept the following challenges:
- housing
- economic restructuring
- employment
- transportation
- environmental degradation
- waste management
- land abandonment
- urban sprawl
- socio-spatial inequality
- social exclusions
- water supply.

Transportation:
Causes
- historical land use planning policies
- parking policies
- community preferences for private vehicles
- lack of provision of accessible public transport.

Impacts
- car dependence
- segregated land uses with provisions of large car parks
- sprawled city boundaries
- congestion.

Environmental degradation: Causes • chemicals/nutrients in runoff • hard surfaces in urban areas • inappropriate waste disposal. Impacts • degradation/nitrification of water systems • changes to hydrological processes due to flooding/sedimentation • increased landcover change for landfill sites.
Accept other relevant answers.

Question 32 (continued)

(b) Evaluate **one** planning strategy used to address **one** challenge facing a megacity, using the concept of sustainability. (12 marks)

Description	Marks
Evaluates one planning strategy used to address one challenge facing a megacity using all aspects of the concept of sustainability Presents a wide range of appropriate supporting evidence and examples to develop and strengthen the evaluation. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	11–12
Evaluates briefly one planning strategy used to address one challenge facing a megacity using all aspects of the concept of sustainability Presents a range of appropriate supporting evidence and examples to develop and strengthen the evaluation. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	9–10
Explains one planning strategy used to address one challenge facing a megacity using all aspects of the concept of sustainability Presents some appropriate supporting evidence and examples to develop the explanation. Uses relevant geographical terminology and concepts to develop a cohesive answer	7–8
Explains briefly one planning strategy used to address one challenge facing a megacity using some aspects of the concept of sustainability Presents some relevant evidence and examples to support the explanation. The use of some geographical terminology and concepts help to develop a mostly articulate answer	5–6
Describes one planning strategy used to address one challenge facing a megacity using at least some aspects of the concept of sustainability Presents limited evidence and/or generalised examples to support the description. There is limited use of geographical terminology and concepts	3–4
Makes generalised statements about one planning strategy used to address one challenge facing a megacity using at least some aspects of the concept of sustainability Limited or no evidence to support statements and generalisations. Limited or no use of geographical terminology and concepts in a largely unstructured response	1–2
Total	**12**

Answers could include:

Sustainability refers to meeting the needs of current and future generations through simultaneous environmental, social and economic adaptation and improvement.

Only accept the following challenges:
- housing
- economic restructuring
- employment
- transportation
- environmental degradation
- waste management
- land abandonment

- urban sprawl
- socio-spatial inequality
- social exclusions
- water supply.

Environmental evaluations
- reduced or increased waste and/or pollution
- reduced or increased total carbon emissions
- reduced or increased carbon sequestration
- reduced or increased heat island effect
- creates more, or less appealing inclusive urban environments
- safe or more dangerous environmental hazards.

Social evaluations
- increased or decreased employment opportunities
- increased or decreased connectedness with a diverse community
- increased or decreased in local economic activity and resilience
- increases or decreases social capacity building and active participation in civic activities
- improvements or decline in mental health and wellbeing
- improvements or decline in physical activity and physical health.

Economic evaluations
- increases or decreases the costs associated with the challenge
- increased or decreased personal financial stress
- increased or decreased government financial security
- increases or decreases in economic opportunities or potential, such as land value capture
- increases or decreases in cities competitiveness and/or growth
- decreases or increases in the provision of welfare services in an area.

Accept other relevant answers.

Question 33 **(20 marks)**

(a) Explain the causes and impacts of **one** challenge facing a megacity. (8 marks)

Description	Marks
Explains the causes and impacts of one challenge facing a megacity Presents a wide range of appropriate supporting evidence and examples to develop and strengthen the explanation. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	7–8
Explains briefly the causes and impacts of one challenge facing a megacity Presents a range of appropriate supporting evidence and examples to develop and strengthen the explanation. Applies relevant geographical terminology and concepts to develop a cohesive response	5–6
Describes the causes and/or impacts of one challenge facing a megacity Presents some relevant evidence and examples to support the description. Uses some relevant geographical terminology and concepts	3–4
Makes generalised statements about the causes and/or impacts of one challenge facing a megacity Limited or no use of geographical terminology and concepts, in a largely unstructured response	1–2
Total	**8**

Answers could include:

Only accept the following challenges:
- housing
- economic restructuring
- employment
- transportation
- environmental degradation
- waste management
- land abandonment
- urban sprawl
- socio-spatial inequality
- social exclusions
- water supply.

Transportation:
Causes
- site limitations, i.e. number of access points to a city
- cost of housing in central areas
- population size/location of employment and workers
- lack of provision/quality of accessible public transport.

Impacts
- economic efficiency costs associated with congestion
- congested roads and public transport systems
- social, emotional, economic toll on commuters.

Waste management:
Causes
- size/density of population
- high volume of waste generated per resident
- limited land to dispose of waste
- difficulty in moving waste through streets or rivers to remove it from the city.

Impacts • economic cost of moving waste • congestion caused by trucks • build up of rubbish in streets • pollution/rodent management.
Accept other relevant answers.

Question 33 (continued)

(b) Evaluate **one** planning strategy used to address **one** challenge facing metropolitan Perth or a regional urban centre in Western Australia using the concept of sustainability.

(12 marks)

Description	Marks
Evaluates one planning strategy used to address one challenge facing metropolitan Perth or a regional urban centre in Western Australia using all aspects of the concept of sustainability Presents a wide range of appropriate supporting evidence and examples to develop and strengthen the evaluation. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	11–12
Evaluates briefly one planning strategy used to address one challenge facing metropolitan Perth or a regional urban centre in Western Australia using all aspects of the concept of sustainability Presents a range of appropriate supporting evidence and examples to develop and strengthen the evaluation. Applies accurate and relevant geographical terminology and concepts to develop a cohesive and concise response	9–10
Explains one planning strategy used to address one challenge facing metropolitan Perth or a regional urban centre in Western Australia using all aspects of the concept of sustainability Presents appropriate supporting evidence and examples to develop the explanation. Uses relevant geographical terminology and concepts to develop a cohesive answer	7–8
Explains briefly one planning strategy used to address one challenge facing metropolitan Perth or a regional urban centre in Western Australia using some aspects of the concept of sustainability Presents some relevant evidence and examples to support the explanation. The use of some geographical terminology and concepts help to develop a mostly articulate answer	5–6
Describes one planning strategy used to address one challenge facing metropolitan Perth or a regional urban centre in Western Australia using at least some aspects of the concept of sustainability Presents limited evidence and/or generalised examples to support the description. There is limited use of geographical terminology and concepts	3–4
Makes generalised statements about one planning strategy used to address one challenge facing metropolitan Perth or a regional urban centre in Western Australia using at least some aspects of the concept of sustainability Limited or no evidence is used to support statements and generalisations. Limited or no use of geographical terminology and concepts in a largely unstructured response	1–2
Total	**12**

Answers could include:

Only accept the following challenges:
- housing
- economic restructuring
- employment
- transportation
- environmental degradation
- waste management
- land abandonment
- urban sprawl
- socio-spatial inequality
- social exclusions
- water supply.

Environmental evaluations
- reduced or increased waste and/or pollution
- reduced or increased total carbon emissions
- reduced or increased carbon sequestration
- reduced or increased heat island effect
- creates more, or less appealing inclusive urban environments
- safe or more dangerous environmental hazards.

Social evaluations
- increased or decreased employment opportunities
- increased or decreased connectedness with a diverse community
- increased or decreased in local economic activity and resilience
- increases or decreases social capacity building and active participation in civic activities
- improvements or decline in mental health and wellbeing
- improvements or decline in physical activity and physical health.

Economic evaluations
- increases or decreases the costs associated with the challenge
- increased or decreased personal financial stress
- increased or decreased government financial security
- increases or decreases in economic opportunities or potential, such as land value capture
- increases or decreases in cities competitiveness and/or growth
- decreases or increases in the provision of welfare services in an area.

Accept other relevant answers.

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Question 21 Adapted from: Department of Resources. (1995). [Aerial photograph of Townsville-Stuart Creek]. Retrieved June, 2023, from: https://qimagery.information.qld.gov.au/?sid=air-photo-where&sval=NAME%3D%27QAP5385051%27
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