



2003 Outdoor and Environmental Studies GA 3: Written examination

GENERAL COMMENTS

Most students had sufficient time to complete the paper; however some need to read questions more carefully to ensure their answer addresses the given question more precisely. The reading time should be used effectively to ensure understanding of each question and to decide which of a student's prepared examples and venues are the most appropriate to use. Where students are asked to identify a particular venue in answering a question, the choice of this venue is critical. Students are strongly advised to consider a number of venues which they are familiar with and then choose the one that will most readily enable them to most thoroughly address the given question.

The format of the question and answer booklet gives a good indication of the depth of answer required for each question as do key words in the question. Words such as **explain, describe, analyse** or **evaluate** indicate that an answer with some depth is required, while words such as **identify** or **outline** indicate that a shorter answer is sufficient, as does **list**.

Where a longer answer is required students are strongly advised to complete a short plan of their answer first. There are a number of spaces within the booklet which can be used for this. A plan enables students to note the main ideas they will cover and to order their response before they start.

Some questions asked for a specific number of responses; additional responses do not attract marks. Students are advised that if they think of a better response after finishing their initial answer, they should cross out the answer which they feel is the weaker and add the extra response. If there is insufficient room, the margins or other spaces may be used as long as the response is clearly labelled.

Students need to understand study specific terms such as **strategies, management strategies, processes, policies, influences, views** and **images**. They need to use these terms in the context of specific questions, giving appropriate examples, rather than quoting general definitions.

When answering questions requiring the naming of particular groups or organisations it is important to name them fully as acronyms are not a sufficient answer. Students are advised to be as specific as possible and to enrich their answers with relevant examples where appropriate to indicate both the depth and breadth of their knowledge. Sweeping general statements do not attract many marks.

SPECIFIC INFORMATION

Question 1

a

Marks	0	1	2	3	Average
%	4	7	30	59	2.44

Identification of three feasible practices for bushfire prevention (1 mark each).

Possible practices included:

- light the fire in an area well cleared all around
- ensure area above fire is clear
- dig a trench to light the fire in
- keep the fire small
- use sufficient water to make sure the fire is well out
- do not leave fire unattended
- always have water nearby in case it gets too big
- use an established fireplace if available
- use a stove rather than a wood fire.

b

Marks	0	1	2	3	4	Average
%	6	14	34	22	24	2.42

One mark each for identifying how Aboriginals and early settlers used fire and 1 mark each for linking this use with the appropriate perception of the land of each group.

Aboriginals

- used fire to regenerate the natural environment especially grasses; this enabled increased populations of animals such as kangaroos and the actual fire also assisted hunting of these animals

- perceived themselves as part of the land and recognised the need to look after it; consequently their fires were relatively cool fires and did not cause significant long-term damage.

Early settlers

- used fire as part of the process of clearing the land for farming use
- perceived the land as a resource and a wild place to be tamed and made more like the land they had come from. The fires they had were very hot and designed to permanently alter the environment.

c

Marks	0	1	2	3	4	Average
%	23	22	31	14	10	1.66

Two marks each for two contemporary views or images of the relationship between fire and outdoor environments, each with some description.

Possible views or images which could be described included:

- fire is a threat to our outdoor environments and we need to manage these places carefully to protect them from fire
- fire is a natural and/or important phenomenon in the Australian environment and fires in natural environments should be left to run their course, as long as human life is not at risk
- cooking on and sitting around a campfire is an important aspect of many types of outdoor recreation in Australia; this has its beginnings in our history but is still very popular today
- control burning is an important management strategy to be used in effectively maintaining our natural environments and reducing wildfire risks
- fire would be seen as a threat to the image of the environment as a museum; a place to be protected and preserved.

d

Marks	0	1	2	Average
%	17	35	48	1.30

One mark each for outlining one positive and one negative aspect.

Possible positive aspects included:

- undertaking control burns in an attempt to mimic natural fire regimes prior to white settlement
- developing effective fire control technology, e.g. fire trucks, radio communications, aerial water bombing
- education campaigns and legislation including annual fire restrictions and total fire ban days to reduce the likelihood of uncontrolled fires
- effective community based organisations to control fires.

Possible negative aspects included:

- attempting to prevent fires from occurring leads to build up of fuel and consequently very intense fires when they do finally occur
- irresponsible behaviour by some threatens the outdoor environment when fires get out of control or are lit deliberately
- intervention to control naturally occurring fires
- modifications to natural environments as part of fire prevention programs, eg. cutting fire tracks

Note: aspects required relate to the role humans play in relation to fire and the outdoor environment; comments solely on the effects of fire on the environment did not attract marks.

e

Marks	0	1	2	3	4	Average
%	19	11	33	17	20	2.07

One mark each for identifying two plausible strategies or policies and 1 mark each for describing them.

Possible answers included:

- keeping the tracks closed for all vehicles except emergency or management vehicles and/or in time of fire
- only allowing tracks to be built through the least fragile sections of the wilderness areas
- not allowing tracks through areas if they would threaten the habitat or migration of native fauna
- not allowing tracks to be built near streams or at excessively steep angles, to avoid lowering water quality with runoff and to reduce the chance of erosion during rain
- ensuring the tyres and underneath of all vehicles who enter the area have been cleaned to reduce the chance of weed/non-indigenous plants or their seeds being carried into the area
- prohibiting the use of recreational vehicles such as motor bikes in the area, to reduce weed infiltration via tyres, reduce the likelihood of track erosion, and to minimise the disturbance to native fauna from noise
- restricting recreational activities to groups such as walkers, birdwatchers, artists where impact can be minimal provided appropriate practices are followed
- introducing a permit system to restrict the number of people and group sizes allowed in the area, so that recreation can occur at a sustainable level
- better fire fighting equipment such as aerial water bombing helicopters would reduce the need for more tracks and hence reduce their impact.

Note: the improved access being suggested was for firefighting purposes and so strategies such as boardwalks are inappropriate as the tracks suggested are for fire vehicles.

Question 2

a

Marks	0	1	2	Average
%	6	36	58	1.52

One mark each for identifying two types of possible environmental degradation.

Possible types of environmental degradation included:

- erosion of soil due to the loss of vegetation which holds the soil in place
- deterioration of water quality through siltation from road run off
- loss of habitat of the spotted tree frog and consequent endangering of this rare species and other native species
- loss of the biodiversity of the mature forest environment.

b

Marks	0	1	2	3	4	Average
%	17	16	27	16	24	2.14

One mark each for listing two reasons why maintenance of biodiversity is important to society and 1 mark each for a more detailed description.

Possible reasons included:

- biodiversity is important because it is the basis of the health of our planet. It provides the necessities of life such as food and clothing and shelter and fresh air to breathe
- genetic diversity enables crops and animals to adapt to varying environments and growing conditions. Such production is important for the adequate food supply for people worldwide. Genetic uniformity makes crops far more susceptible to disease
- many medicines are derived from plants; others yet undiscovered will also no doubt come from such sources
- biodiversity maintains the land in a way that people can use it for a variety of recreational uses
- in contemporary society it is important for people to still have wild places for their aesthetic value and/or for peace of mind and relaxation
- maintaining biodiversity is important in preserving the planet for future generations.

ci

Marks	0	1	2	Average
%	6	44	50	1.43

One mark for each of two interest groups as long as the groups listed have opposing views. One mark only if groups could be expected to have similar views.

Possible interest groups included:

Loggers	greens
Conservationists	developers
Bushwalkers	club tourist operators

Responses listing actual groups such as the Victorian National Parks Association or the Timber Industry Association, were also acceptable. As some schools would not have studied logging as an issue, students were not expected to name actual groups.

cii

Marks	0	1	2	3	4	5	6	Average
%	17	4	7	13	18	17	24	3.60

One mark each for naming three different strategies and a further mark each for describing each in some detail.

Possible strategies included:

- use the media to obtain publicity for the cause; could include advertising, letters to the editor or TV news coverage
- lobby the government minister or department responsible for the area to ensure their views are heard and considered
- conduct a public meeting to inform other people and politicians of the issues
- take direct action and blockade a site to prevent further work occurring and bring publicity to the issue
- protest or rally as a group in a public place to draw public and media attention to the cause
- write letters to the editors of local or national papers to gain attention to the cause when they are published and read
- collect signatures on a petition from people who support the cause and hence strengthen your case when the signatures are presented to the local government member
- conduct an education campaign to inform politicians or other local people of the issues
- monitor environmental effects which are occurring to use in your case
- conduct a publicity campaign in the local community to inform other people of the issues with a hope to enlist their support, and use stickers and slogans to spread the message further.

di

Marks	0	1	2	3	Average
%	45	23	19	13	1.00

One mark for naming an appropriate process, 1 mark for describing that process and 1 mark for including why it is appropriate to use in this case.

Possible processes included:

- the government department responsible could introduce regulations to zone the use of Pristine Valley area, allowing logging in areas where the spotted tree frog would not be threatened and leaving more sensitive areas for conservation or recreation
- the government department responsible could conduct scientific research and prepare an environmental impact statement and make recommendations to the government on the viability of logging the area and also protecting the spotted tree frog and other endemic species
- the State Government could pass legislation to protect Pristine Valley; this could impose a total ban on development or could restrict it or it could pass legislation allowing development
- the government department responsible could develop a management plan for Pristine Valley including community consultation in the process. This would allow all stakeholders to express a point of view before a decision is made
- the Federal Government could apply for World Heritage listing for Pristine Valley. This protects significant cultural and natural heritage sites, and comes under the auspices of UNESCO. Although this would not automatically stop logging in the area it would strengthen the case against logging
- in other cases of dispute a court ruling or litigation may be required. The logging industry may take legal action to be allowed to operate in a state forest as regulations allow this in most circumstances
- government departments could encourage the use of voluntary codes of practice by all users of Pristine Valley, with a view to preventing the need for more formal regulations
- decision makers could establish a community forum and encourage submissions from groups or individuals.

dii

Marks	0	1	2	Average
%	54	20	26	0.72

One mark for an advantage and 1 mark for a disadvantage of the process given in 2di.

Note that both the advantage and the disadvantage had to be feasible for the given process.

Some possible responses included:

	Advantage	Disadvantage
zoning	all users still get some use	some logging still continues so not all users are satisfied
environmental impact statement	decisions based on collected facts	takes time and money to complete
legislation	outcome is definite once law is passed	takes a long time and a lot of lobbying; result usually favours one side
management plan	all parties able to contribute to decision and may lead to win-win situation	takes time and money to complete
World Heritage listing	gives international recognition and support to the issue	very lengthy, involved process, needs Federal government involvement
litigation	all parties get the opportunity to argue for the outcome they want	one party loses in the end, no compromise and favours the party with the most money
voluntary code of practice	encourages good practice which may extend to other areas than Pristine Valley	cannot be enforced, so can be ignored

e

Marks	0	1	2	3	4	5	6	Average
%	21	14	20	18	15	8	4	2.33

One mark each for naming a possible impact on the valley in relation to development and to conservation, 2 marks each for a thorough discussion of each impact.

Some possible impacts on development included:

- logging would not be allowed in the National Park. This would protect the old growth forest environment, maintain the biodiversity of the area and allow recreation in a pristine environment
- development of some roads and facilities for management staff and park users would be required.

Some possible impacts on conservation included:

- the area would now be managed with a view to conserving its wilderness value and protecting its endemic flora and fauna. A management plan would have to be developed and the spotted tree frog would have more chance of surviving
- area is much less likely to have problems with introduced animals or weeds.

Note: as this land had no previous impact, it could not be argued that its conservation is now improved; it does not require restoration work; it is merely more likely to be protected in the future.

fi

Marks	0	1	2	Average
%	9	24	67	1.57

One mark for each of two management approaches (management strategies) to reduce environmental impact

Those given must be appropriate for the area described which is of an area unchanged since European settlement.

Possible approaches included:

- closing some areas or tracks during certain seasons or permanently to limit damage caused by recreational users
- limiting the number of people allowed in an area at any one time. This requires a booking system, but reduces immediate impact and gives an area a chance to recuperate as impact is spread out and sustainable
- zoning areas for separate and specific uses. This allows various users' groups to operate independently and in areas where their impact is sustainable
- developing codes of practice for sustainable use of the Pristine Valley environment and conducting an education campaign to bring the codes to the attention of users
- advertising the imposition of penalties as a deterrent to not following guidelines to reduce impact
- education campaigns including information boards and advertising campaigns
- building infrastructure such as boardwalks, steps and toilets to reduce the impact of recreational users
- management of fire regimes to maintain the ecology of the area.

fii

Marks	0	1	2	3	4	Average
%	2	2	11	34	51	3.28

One mark for each of 4 minimal impact actions listed.

Possible actions included:

- use a lightweight portable stove
- wash dishes well away from the river
- select a campsite away from the river and one which is already as clear of vegetation as possible
- choose a toilet site at least 100 m away from the river and dig a hole at least 15 cm deep to bury all human waste
- remove all signs of your presence as you leave; includes all rubbish and food scraps
- travel in small groups, as it is much less likely to cause track formation or degradation around campsites
- spend only one night in each location, to reduce damage to vegetation and soil compaction around the campsite
- spreading out when walking through untracked areas to minimise impact on fragile vegetation.

Note: answers such as 'obey all signs' were not accepted as it is not an action to minimise impact. Lighting a fire 'using an existing fire scar' was not accepted, as using a fire rather than a stove could not be seen as a minimal impact action. Likewise 'not using detergents when washing in the creek' was not accepted, as washing in the creek is not a minimal impact action.

Question 3

ai

Marks	0	1	2	3	4	5	6	Average
%	12	9	12	19	16	16	16	3.29

One mark each for a description of the three relationships required and 1 mark each for how this relationship is expressed in their use of the land.

Possible points to be made included:

Aboriginal

The Aboriginal people had a kinship relationship with the land; they saw it as their life source and the place they returned to after death. As a consequence it was extremely important to them to look after the land and everything that lived there. This relationship ensured that they maintained the biodiversity of the land.

Settler

A settler's relationship with the land depended on its value as a resource. It was seen as a place to be exploited, to be altered at will and if possible to be made more like the place they called home, with very little understanding or concern for the long-term consequences. They tended to see the land as alien and hostile as it was so very different from their homelands in Europe.

Contemporary resident

Contemporary resident may still see the outdoor environment as a resource, but whose inherent beauty they enjoy. They are taking far more interest in preserving their environment and aiming for sustainable development, and are

increasingly aware of the need to preserve public land in its natural state for the use of future generations. For many residents the outdoor environment is also now seen as a place of recreation.

Note: there was only one contemporary group. Many students gave answers assuming all groups were contemporary. Careful reading of the question was essential to attract full marks.

aii

Marks	0	1	2	3	4	5	6	Average
%	8	6	13	20	21	18	14	3.51

Two marks for a full description of each of the three environmental changes required.

Possible changes included:

Aboriginals

They would have caused very little change. Their lifestyle enabled them to maintain the biodiversity of the area through such practices as:

- a semi-nomadic lifestyle where they moved according to the seasons following various food sources as they came into season
- never taking an entire food source, thus enabling areas to regenerate between visits
- firestick farming which may well have initially led to great changes in the Australian landscape, but as the resulting vegetation is in many cases reliant on fire to regenerate, this practice helped the maintenance of biodiversity.

Students could also argue that a significant change was the demise of the mega fauna.

Settlers

They would have made very great changes to the land with drastic consequences as their land management practices were not suited to the new land. These practices included:

- land clearing leading to erosion, salinity
- introduced species such as the fox and rabbit threatening native animals and causing erosion respectively
- introducing plants such as the blackberry which competed with native flora
- introduction of hard-hoofed animals.

Contemporary resident

They would likely be aware of the changes that have occurred over time in the area and be more concerned with restoring the land than further developing it. Changes which may have occurred due to these residents included:

- the threat to native animals from domestic dogs and cats
- soil compaction along tracked areas threatening trees and other vegetation
- water run off from the nearby housing could reduce water quality of the creek
- litter left by park users, which may make native animals become dependent on food scraps
- residents may have taken steps to restore the land through such measures as planting indigenous trees and stabilising creek banks.

b

Marks	0	1	2	3	4	Average
%	16	18	29	26	11	1.98

One mark for each of four reasons identified only.

Possible reasons for conservation of the bushland included:

- protects the biodiversity of the area
- offers a valuable education project for student involvement
- respects aboriginal relics/sacred sites
- protects valuable remnant vegetation
- provides greater hope of maintaining water quality of the creek
- offers a valuable passive recreation area to the school and community
- area would be preserved for future generations.

ci

Marks	0	1	2	3	Average
%	4	9	38	49	2.31

One mark for each of three personal practices outlined.

Possible practices included:

- taking all rubbish out of the area when they leave
- not leaving food scraps to alter the behaviour of native animals or make them dependent on humans
- staying on the set tracks when visiting the area to protect the vegetation
- visiting in small numbers for quiet activities to minimise disruption to native plants and animals
- respecting the native animals, e.g. not throwing stones at birds.

Note: answers which described general management practices did not attract marks, as the practices required must be ones individual students could initiate.

cii

Marks	0	1	2	3	4	Average
%	15	14	32	20	19	2.14

Two marks for each thorough explanation of two strategies or policies (management strategies) to maintain the land during increased use.

Possible responses included:

- closing some areas or tracks during certain seasons or permanently to limit damage caused. For instances when birds are mating or during winter when certain areas are wet and easily eroded
- limiting the number of students allowed in an area at any one time. This reduces immediate impact and gives an area a chance to recuperate as impact is spread out and sustainable
- zoning areas for separate and specific uses. This allows various groups of students to operate independently and in areas where the impact of their particular activity is sustainable
- developing codes of practice for sustainable use of the area and conducting an education campaign throughout the school to bring the codes to the attention of all students
- education to make students aware of the environmental significance of the area to encourage them to be active caretakers
- building infrastructure such as boardwalks, steps and toilets to reduce the impact of student use
- undertaking programs to eradicate introduced species to reduce their impact on native flora and fauna; may involve fencing the area and weed eradication
- establishment or protection of wildlife corridors to enable native fauna to access remnant pockets of native vegetation
- educating students on the environmental importance of the area.

Question 4

Marks	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
%	8	3	6	8	10	11	10	10	9	7	6	4	4	2	1	1	6.11

Up to 5 marks were available for each of the three areas: conservation, recreation and commerce

To attract a high score for this question the choice of venue was very important. It was essential that all three aspects of conservation, recreation and commerce (up to 5 marks were available for each) could be addressed in depth. Venues where there is very little conservation work or commercial activity were not appropriate. Lengthy descriptions of the area did not attract marks, nor did sweeping statements such as ‘there are many impacts’. Impacts had to be outlined in relation to specific activities. Many students outlined detailed current management strategies for their chosen venue, but as they had not addressed either current uses of the venue and their impacts they could at most be awarded 9 marks. Students are strongly encouraged to plan their answers to such an extended question before starting to write, to ensure that they address all aspects of the question. Reading the question carefully is very important.

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