

LIBERAL STUDIES (ENVIRONMENTAL STUDIES) AS-LEVEL

9.00 am-11.30 am (2½ hours)
This paper must be answered in English

1. This paper consists of Sections 1, 2 and 3. Sections 1 and 3 both carry 25% of the module marks, and Section 2 carries 50%.
2. Candidates are required to answer ALL questions from Sections 1 and 2, and ONE question from Section 3. They are advised to spend 40 minutes on each of Sections 1 and 3, and 70 minutes on Section 2.
3. The weighting of each question is indicated in brackets. It is a guide to the length of answer required, which may vary from one to several paragraphs.
4. A SEPARATE ANSWER BOOK SHOULD BE USED FOR EACH SECTION. On the front cover of each answer book, the Section and Question Nos. MUST be inserted in the boxes provided. It is NOT necessary to start each sub-question on a new page.
5. Candidates are reminded that this subject emphasises the ability to present and support points of view in a clear, concise and logical manner, rather than the ability to recite facts.

SECTION 1 (Short Questions)

(25% of the module marks)

Answer *all* the questions in this section.

1. The following is a summary of the government's policy statement about the use of electric vehicles in Hong Kong:

Electric Vehicles

The government has recently established an interdepartmental working party to look into the possibility of making greater use of electric vehicles in Hong Kong. This has been done because of the claimed environmental benefits of electric vehicles, and recent improvements in electric vehicle technology elsewhere in the world. It is recognised that electric vehicles are environmentally friendly and are especially suitable for use in Hong Kong because most local vehicular journeys are short-range and air pollution from diesel/petrol engined vehicles is a genuine problem.

Electric vehicles are not popular here at the moment. Commercially, they are not readily available and they are expensive to buy.

The government will continue to monitor the development of electric vehicle technology and the availability of electric vehicles so that when their viability has been established, changes needed to facilitate and encourage the use of electric vehicles can be quickly put in place.

- (a) Explain how the government could promote the use of electric vehicles in Hong Kong. (5%)
- (b) The above summary gives a very optimistic view of the environmental advantages of replacing petrol/diesel vehicles with electric vehicles. Some people would not agree with this view. Explain why they have such reservations. (8%)

SECTION 2 (Data Response Questions)

[50% of the module marks]

Answer *all* the questions in this section.

2. The following table lists the estimated lifetimes of some global resources:

	Estimated lifetimes (years)	
	at 1989 global consumption rates	at 2030 projected consumption rates*
Aluminium	805	407
Copper	277	26
Cobalt	429	40
Molybdenum	256	33
Nickel	163	16
Platinum	413	39
Coal	3,226	457
Petroleum	83	7

* The 2030 projected consumption rates assume a population of 10 billion people all consuming at the 1989 United States rates. (Note: The 1989 world population was about 5.3 billion.)

- (a) Explain what the above estimates indicate, and comment on the assumptions on which the estimates for the year 2030 are based. (5%)
- (b) What action do you consider should be taken in response to the warnings given by the 2030 data? Explain your answer. (7%)

3. Pollution Complaints Received by the Environmental Protection Department (EPD) in 1992:

Table 1 - Breakdown of the nature of the 6,000 complaints

Air	47.4%
Noise	40.5%
Liquid waste	7.4%
Solid waste	2.5%
Water (mostly beaches)	0.3%
Miscellaneous	1.9%

Table 2 - Analysis of sources of air & noise pollution complaints in Table 1

Air (2774 complaints)		Noise (2376 complaints)	
Vehicle Emissions	49.2%	Construction (piling/pneumatic drills, etc.)	14.8%
Commercial* (mostly restaurants/hotels)	13.0%	Neighbourhood & public areas	14.0%
Industrial*	18.8%	Transport (road/aircraft/MTR/KCR/LRT)	4.0%
Miscellaneous	19.0%	Industrial	66.6%
		Miscellaneous	0.6%

* offensive smells

(a) Why do *vehicle emissions* account for nearly half of the air pollution complaints? (8%)

(b) *The long-term government investment plans for improving the environment put almost all the emphasis on improved disposal of solid waste and liquid waste (sewage). HK\$23 billion (at 1989/90 prices) has been set aside for this in the 1990s - a sum of money that vastly exceeds expenditure on the other areas listed in Tables 1 and 2.*

Why do solid waste and sewage produce so few complaints? Does the government have its spending priorities right? Explain your answer. (20%)

- (c) The following is adapted from a government leaflet entitled 'We should help pay for the sewage services we use':

The Charging Scheme

- To ensure that charges on households will be modest, the government is financing the full capital cost of the new sewage services and the public will only pay for the running cost of the services they use.
- To make the payment system simple, people will be charged mainly according to the amount of water consumed. The less one uses, the less one will need to pay.
- The sewage charges will be significantly lower than water bills, which average about \$25 a month for an average family in a public housing estate.
- Some commercial and industrial users are discharging more polluting effluent than domestic households, so we are proposing a Trade Effluent Surcharge which will reflect the additional treatment costs involved.

The Solution

- Because the capital costs are over \$12 billion, the government cannot afford to act alone.
- As we all contribute to the pollution in Hong Kong, we should all help pay for the services provided – this is called the Polluter Pays Principle.

Explain whether or not you think the government proposal to impose the 'sewage charge' is reasonable. (22%)

SECTION 3 (Conventional Essay Questions)

[25% of the module marks]

Answer *one* question from this section.

4. Study this quotation:

In Hong Kong, pollution control is central to environmental protection. There is a tendency to regard environmental problems as essentially technical problems, but their solutions are expensive. Sometimes the price is acceptable; sometimes it is not. However, in reality, environmental protection involves a mix of problems, some of which have technical solutions and some of which can only be effectively tackled through social and economic measures, including community education.

[Adapted from *Limited Gains* published by The University of Hong Kong]

Examine the writer's point of view and give examples from Hong Kong to illustrate it. Do you agree with this standpoint? Justify your answer. (25%)

5. Study this quotation:

Throughout the world there is always tension between economic development on the one hand and conservation of the environment on the other. Governments are expected to make progress in improving the environment at both local and global levels, but at the same time they are expected to maintain high growth rates in their economies. The consequence of zero growth or recession is that when elections come along such governments are invariably voted out of office. In the long-term, it seems totally unrealistic to expect any government to succeed in both aspects. Dealing with this problem will be the greatest single challenge of the 21st century.

Explain why you agree or disagree with this view. Discuss whether you think this view has any relevance for Hong Kong and give examples to illustrate your answer. (25%)

6. Consider what the cartoon characters below have to say:



Explain your own position regarding this doomsday scenario (i.e. gloomy prediction of man's future). (25%)

7. Study the newspaper article dated Saturday, 29.5.1993 and the associated comment:

(Newspaper article)

With Daya Bay nearly complete, how safe is Hong Kong?

The delays which cost millions are over. Yesterday there was a sense of triumph at the vast Daya Bay nuclear plant that has taken shape over the last decade near the rural villages and residential developments in Huizhou.

But for environmentalists who have campaigned for ten years against what they believe is a high risk project, this weekend is nothing to celebrate.

Friday saw the start of the week-long operation which will load and insert 157 nuclear fuel rods into the reactor core inside the plant built on a dusty landfill site on the coastline.

The risks, they believe, of a worst-case scenario, a nuclear disaster which could threaten Hong Kong, are still too great to ignore.

Daya Bay has taken a significant step towards its aim to supply an annual 10 billion units of electricity to Guangdong and Hong Kong from the end of the year.

Nuclear experts insist that a disaster big enough to turn Hong Kong into a radioactive zone could only happen if all the plant's safety systems failed to operate. The most unfavourable weather conditions would also be necessary. Even then, the risk would be to our food and water, not our lives.

(Comment)

From its inception, the Daya Bay nuclear plant has aroused great passions amongst some environmental groups in Hong Kong. They have opposed the building of the plant, and have questioned every aspect of its construction and operation, claiming that the risks it poses to Hong Kong are unacceptable. The nuclear experts, on the other hand, claim that any risks to Hong Kong are minimal and that the impact of the plant on the environment will be far less than what would have occurred if conventional coal/oil fired plants were to be used to produce such a large amount of electricity.

Evaluate the views of the opposing sides, and give your own opinion of the desirability of the Daya Bay plant. (25%)

END OF PAPER