

LIBERAL STUDIES (ENVIRONMENTAL STUDIES) AS-LEVEL

8.30 am – 11.00 am (2½ hours)

This paper must be answered in English

1. This paper consists of **Section 1** and **Section 2**. Section 1 carries 75% of the module marks, and Section 2 carries 25%.
2. **Section 1** consists of three questions, *all* of which are to be answered. **Section 2** consists of four questions, of which candidates may attempt any *one*.
3. Each question is worth 25 marks : 18 marks are allocated for content and 7 marks for effective communication.
4. The maximum content marks are indicated in brackets at the end of each question and sub-question. They are a guide to the length of answer required, which may vary from one to several paragraphs.
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

Answer *all* questions in this section.

1. Consider the following information :

A newspaper extract

Solutions to air pollution				
<p>I believe I can provide solutions to reducing Hong Kong's air pollution problem by probably up to 60-70 per cent with immediate effect.</p> <p>The government should simply replace all the taxis and public light buses that are currently using diesel with new, environmentally-friendly LPG substitutes, given free of charge to the existing owners and operators.</p> <p>This suggestion would cost the Government in the region of \$3 billion to \$5 billion, based on the number and replacement cost of such vehicles operating today.</p> <p>This is a price well worth paying for an immediate solution to our drastic air pollution problem – a problem that is seriously affecting revenue coming into Hong Kong from investment, tourism and international conferences.</p> <p>With our large financial reserves, the Government can easily afford this investment for such a serious issue to be solved quickly and efficiently.</p> <p>Such quick action to resolve the air pollution crisis would be fully supported by the public. The old, environmentally-unfriendly taxis and public light buses could be shipped to other countries for a low price. This would be a way of off-setting the cost of this investment.</p> <p style="text-align: right;">Mr Wong</p>				

Information supplied by the Environmental Protection Department

Sources of Air Pollutant in Hong Kong				
Source \ Pollutant	Carbon monoxide	Sulphur dioxide	Nitrogen oxides	Suspended particulates
Vehicles	82%	2%	32%	48%
Electricity generation	10%	75%	48%	39%
Fuel burning	4%	21%	8%	6%
Aeroplanes	2%	1%	4%	1%
Ships	2%	2%	9%	6%

- (a) In the light of the information provided, discuss whether you think that the effectiveness of Mr Wong's suggestion for reducing Hong Kong's air pollution problem is over-exaggerated. (8 marks)
- (b) To what extent do you consider the views expressed are those of an environmentally-friendly person? Explain your answer. (10 marks)

2. Consider the following extract from a newspaper :

Hong Kong people are the 13th biggest users of natural resources in the world, according to a World Wildlife Fund for Nature (WWF) report.

The Fund's Living Planet 2000 study, which ranked Hong Kong alongside 151 countries and regions, found the territory had a per-capita 'ecological foot-print' of 7.14 compared to a world average of 2.85.

The footprint is a new way of charting the impact people have on the planet. Researchers calculate the size of the footprint by measuring a population's consumption against how much land is needed to produce its resources and absorb its waste.

In Hong Kong's case, because most food is imported and massive resources are used, Hong Kong emerges as among the most wasteful regions.

Hong Kong would need at least 444 times of its existing land area to sustain its consumption, said Ms Woo, a conservation officer for World Wide Fund for Nature Hong Kong (WWF HK). 'This is not borrowing, but stealing resources from our children and grandchildren,' Ms Woo said.

According to the Fund, development has threatened freshwater wetlands, such as Long Valley, Sha Lo Tung, Sham Chung and Tai Ho. These threatened areas should be protected because of their biodiversity.

The report stated that humans were putting 50 per cent more pressure on the Earth's ecological resources than in 1970. Forest and marine life have declined by 12 per cent and 35 per cent respectively over the same period.

Compared with Hong Kong, the mainland's footprint falls below the world average at 1.84, ranked 81st. In Asia, Hong Kong emerges as less wasteful than Singapore, which has a footprint of 12.35.

The footprint of the US is 12.22, ranked 3rd and Britain is 6.29, ranked 18th.

- (a) Identify the problem that is raised in the newspaper extract and explain the nature of the problem. (6 marks)
- (b) Suggest *two* measures that you would consider to be effective in solving the problem. In each case, justify why it would be effective. (12 marks)

3. Consider the following information :

Crisis	Threat
Soil erosion	The fertility of soil in 110 countries is declining as a result of the removal of forests, farming and grazing.
Supply of clean fresh water	25,000 people die each day after contracting diseases from contaminated water.
High consumption of energy and climate change	Rising temperatures will result in a higher sea level, drowning coastal cities and farmland. The balance of natural ecosystems will also be upset.
Reduction in forest area	Temperate countries have lost much of their forest cover and, in some Southeast Asian countries, forests will disappear totally in the next 40 years.
Reduction in number of species	70 per cent of animal and plant species may become extinct in the next 50 years.
Over-exploitation of the ocean and pollution of coastal zones	Fish reserves and harvests are declining drastically in many coastal regions.
Loss of ozone in the atmosphere	The area of severe ozone depletion at the poles has increased drastically since the 1980s.

Select **three** crises from the above table that you think should be accorded top priority to prevent further deterioration of the world environment. Justify your choice. (18 marks)

SECTION 2

Answer *any one* question in this section.

4. Consider the following illustration :



- (a) Discuss the impacts that the changes indicated in the above illustration may have on the environment. (8 marks)
- (b) To what extent do you think that the Hong Kong Government has got the balance right between the preservation of the environment and the provision of new infrastructure to maintain economic prosperity? (10 marks)

5. Consider the following survey results :

1,083 tourists visiting Hong Kong were interviewed. Among the Asian tourists interviewed, more than 40% were Singaporeans. Tourists from Western countries were more satisfied with Hong Kong tours than those from Asian countries. 78% of the Western tourists and 85% of the Asian tourists said they would visit Hong Kong again.

Percentage of visitors who considered Hong Kong worse than other Asian cities		
	Western tourists	Asian tourists
Air quality	34%	35%
Noise	35%	51%
Cleanliness of streets	20%	41%

- (a) Interpret the findings of the survey. (9 marks)
- (b) What should the Hong Kong Government do to make the city 'cleaner and greener' to attract tourists? Explain your answer. (9 marks)

6. Consider the follow extract from a newspaper :

Zhuhai, alarmed over the dumping in its waters of toxic mud dredged from Hong Kong's Container Terminal 9 construction site, called on Beijing to ban the dumping. The Zhuhai Special Economic Zone Government asked the Guangdong Provincial Government to pass its objection to the State Oceanic Administration Bureau in Beijing, which manages the country's marine dumping sites.

Zhuhai complained that it was not consulted by the State Bureau about the dumping of contaminated mud containing heavy metals off Erzhou Island, in mainland waters 42km south of Hong Kong. It feared that the dumping would damage the marine environment and nearby fish farming. Zhuhai's tests on mud from a dredger suggested that the toxicity level was significantly higher than the national standard.

The State Bureau gave the contractor permission to dump a million cubic metres of contaminated mud. The Bureau denied that the dumping was a major cause of pollution and claimed that it still meets environmental standards. It said a recent test indicated that waters near the dumping site were only slightly polluted.

The contractor has not commented on the contents of the mud, but submitted hundreds of pages of data to the Environmental Protection Department of Hong Kong about the impact of the dumping. The Department is reviewing the data to decide if a permit should be renewed.

Greenpeace said it was worried that more and more contaminated mud would be dumped into mainland waters before the Department reached a conclusion. It urged the Department to disclose all the data from the contractor in order to judge if the data was reliable and sufficient. A total of 6.6 million cubic metres of contaminated mud will be dredged from the construction site. Greenpeace said the mud contains high levels of heavy metals, volatile organic compounds, polychlorinated biphenyls (PCB) and tributyltin (TBT).

- (a) According to the above information, identify and explain the problem. To what extent does this problem illustrate the need for cross-boundary co-operation? (6 marks + 6 marks)
- (b) Explain whether people in Hong Kong should be concerned with an environmental issue located more than 40km away in the South China Sea. (6 marks)

7. The following findings are from a survey of 16 year-old students from top schools in some countries/cities and show the percentage *agreeing* with the two views below. The survey involved about 1,000 students from each place.

Country/City	'We should concentrate on protecting the environment even if it means some reduction in economic growth.'	'It is quite possible to have both a prosperous economy and a healthy environment.'
Japan	83%	43%
India	81%	85%
Singapore	78%	76%
Thailand	71%	89%
Guangzhou, China	68%	81%
New Zealand	64%	73%
Hong Kong, China	59%	75%

What suggestions can you put forward which explain the similarities and differences of students' attitudes? Justify your suggestions. (18 marks)

END OF PAPER

