MT 37-DSE
ENG LANG

PAPER 1
PART A

HONG KONG DIPLOMA OF SECONDARY EDUCATION EXAMINATION

A
COMPULSORY

MOCK TEST 37
ENGLISH LANGUAGE PAPER 1

PART A

Reading Passages

1 hour 30 minutes

(for both Parts A and B)

GENERAL INSTRUCTIONS

(1) There are two parts (A and B) in this paper. All candidates should attempt Part A. In Part B, you should attempt either Part B1 (easier section) OR Part B2 (more difficult section). Candidates attempting Parts A and B2 will be able to attain the full range of levels, while Level 4 will be the highest level attainable for candidates attempting Parts A and B1.

(2) After the announcement of the start of the examination, you should write your Candidate Number on the appropriate pages of the Part A Question-Answer Book and the Part B Question-Answer Book which you are going to attempt.

(3) Write your answers in the spaces provided in the Question-Answer Books. Answers written in the margins will not be marked.

(4) For multiple-choice questions, you are advised to blacken the appropriate circle with a pencil so that wrong marks can be completely erased with a clean rubber. Mark only **ONE** answer to each question. Two or more answers will score **NO MARKS**.

(5) Supplementary answer sheets will be supplied on request. Write your Candidate Number and mark the question number box on each sheet.

(6) No extra time will be given to candidates for filling in the question number boxes after the 'Time is up' announcement.

(7) The two Question-Answer Books you have attempted (one for Part A and one for Part B) will be collected together at the end of the examination.

(8) The unused Question-Answer Book for Part B will be collected separately at the end of the examination. This will not be marked. Do not write any answers in it.

INSTRUCTIONS FOR PART A

(1) The Question-Answer Book for Part A is inserted after this Reading Passages booklet.

(2) Attempt ALL questions in Part A. Each question carries ONE mark unless otherwise stated.

Not to be taken away before the end of the examination session

Written by Joanne Kent (6.1/2018-19)

PART A

Read Text 1 and answer questions 1–22 in the Question-Answer Book for Part A.

Text 1

Nick Bostrom on artificial intelligence

I. Superintelligence: Paths, Dangers, Strategies

From mechanical turks to science fiction novels, our mobile phones to *The Terminator*, we've long been fascinated by machine intelligence and its potential—both good and bad. We spoke to philosopher Nick Bostrom, author of *Superintelligence: Paths, Dangers, Strategies*, about a number of pressing questions surrounding artificial intelligence and its potential impact on society.

II. Are we living with artificial intelligence today?

Mostly we have only specialized AIs—AIs that can play chess, or rank search engine results, or transcribe speech, or do logistics and inventory management, for example. Many of these systems achieve super-human performance on narrowly defined tasks, but they lack general intelligence.

There are also experimental systems that have fully general intelligence and learning ability, but they are so extremely slow and inefficient that they are useless for any practical purpose.

AI researchers sometimes complain that as soon as something actually works, it ceases to be called 'AI'. Some of the techniques used in routine software and robotics applications were once exciting frontiers in artificial intelligence research.

III. What risk would the rise of a superintelligence pose?

It would pose existential risks—that is to say, it could threaten human extinction and the destruction of our long-term potential to realize a cosmically valuable future.

IV. Would a superintelligent artificial intelligence be evil?

Hopefully it will not be! But it turns out that most final goals an artificial agent might have would result in the destruction of humanity and almost everything we value, if the agent were capable enough to fully achieve those goals. It's not that most of these goals are evil in themselves, but that they would entail sub-goals that are incompatible with human survival.

For example, consider a superintelligent agent that wanted to maximize the number of paperclips in existence, and that was powerful enough to get its way. It might then want to eliminate humans to prevent us from switching it off (since that would reduce the number of paperclips that are built). It might also want to use the atoms in our bodies to build more paperclips.

Most possible final goals, it seems, would have similar implications to this example. So a big part of the challenge ahead is to identify a final goal that would truly be beneficial for humanity, and then to figure out a way to build the first superintelligence so that it has such an exceptional final goal. How to do this is not yet known (though we do now know that several superficially plausible approaches would not work, which is at least a little bit of progress).

V. How long have we got before a machine becomes superintelligent?

Nobody knows. In an opinion survey we did of AI experts, we found a median view that there was a 50% probability of human-level machine intelligence being developed by mid-century. But there is a great deal of uncertainty around that—it could happen much sooner, or much later. Instead of thinking in terms of some particular year, we need to be thinking in terms of probability distributed across a wide range of possible arrival dates.

VI. _____

There is what I call a "good-story bias" that limits what kind of scenarios can be explored in novels and movies: only ones that are entertaining. This set may not overlap much with the group of scenarios that are probable.

For example, in a story, there usually have to be humanlike protagonists, a few of which play a pivotal role, facing a series of increasingly difficult challenges, and the whole thing has to take enough time to allow interesting plot complications to unfold. Maybe there is a small team of humans, each with different skills, which has to overcome some interpersonal difficulties in order to collaborate to defeat an apparently invincible machine which nevertheless turns out to have one fatal flaw (probably related to some sort of emotional hang-up).

One kind of scenario that one would not see on the big screen is one in which nothing unusual happens until all of a sudden we are all dead and then the Earth is turned into a big computer that performs some esoteric computation for the next billion years. But something like that is far more likely than a platoon of square-jawed men fighting off a robot army with machine guns.

VII. _____

It is worth noting that even systems that have no independent will and no ability to plan can be hard for us to switch off. Where is the off-switch to the entire Internet?

A free-roaming superintelligent agent would presumably be able to anticipate that humans might attempt to switch it off and, if it didn't want that to happen, take precautions to guard against that eventuality. By contrast to the plans that are made by AIs in Hollywood movies—which plans are actually thought up by humans and designed to maximize plot satisfaction—the plans created by a real superintelligence would very likely work. If the other Great Apes start to feel that we are encroaching on their territory, couldn't they just bash our skulls in? Would they stand a much better chance if every human had a little off-switch at the back of our necks?

VIII. _____

The concern that I focus on in the book has nothing in particular to do with robotics. It is not in the body that the danger lies, but in the mind that a future machine intelligence may possess. Where there is a superintelligent will, there can most likely be found a way. For instance, a superintelligence that initially lacks means to directly affect the physical world may be able to manipulate humans to do its bidding or to give it access to the means to develop its own technological infrastructure.

One might then ask whether we should stop building AIs? That question seems to me somewhat idle, since there is no prospect of us actually doing so. There are strong incentives to make incremental advances along many different pathways that eventually may contribute to machine intelligence—software engineering, neuroscience, statistics, hardware design, machine learning, and robotics—and these fields involve large numbers of people from all over the world.

END OF READING PASSAGES

From *Nick Bostrom on artificial intelligence*.

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MOCK TEST 37
ENGLISH LANGUAGE
PAPER 1 PART A
QUESTION-ANSWER BOOK

A
COMPULSORY

Write your Candidate Number in the space provided on this page.
Read Text 1 and answer questions 1–22. *(43 marks)*

Text 1

1 Based on the information in section I, complete the summary by writing ONE word in each blank. You should make sure that your answers are grammatically correct. *(2 marks)*

> Humans have long found the idea of machine intelligence (i) fascinating. The article reveals Nick Bostrom's views on artificial intelligence and what kind of impact it could (ii) potentially have on society.

2 What does 'these systems' (line 8) refer to?

specialized AIs

3 Which activity is NOT mentioned in section II as a task that artificial intelligence can complete? Write the letter for the activity in the box below.

A B C D E

Activity [D].

4 Find a word in section II that has a similar meaning to 'outer limits'.

frontiers

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Go on to the next page

5 What problems are there with the way artificial intelligence is used today? Find ideas mentioned in section II and match them with the examples given in the column on the right. *(2 marks)*

Idea mentioned in section II	Examples
(e.g.) We have only specialized AIs.	AIs can only do a limited number of tasks.
i) AIs achieve super-human performance on narrowly defined tasks, but they lack general intelligence.	A computer may be efficient at tasks it is programmed to do, but it cannot learn to do new tasks by itself.
ii) AIs are so extremely slow and inefficient that they are useless for any practical purpose.	Humans could do the same or more complicated tasks more quickly and easily.

6 Who/What does 'they' (line 21) refer to?

(final) goals an artificial agent might have

7 This flow chart shows the sequence of events described in section IV when artificial intelligence can become destructive. Fill in each blank with a word or phrase from section IV. *(4 marks)*

The goal of a superintelligent agent is (i) incompatible with the survival of humans.

↓

Imagine a superintelligent agent wants to produce as many paperclips as possible.

↓

Humans decide to (ii) switch off the superintelligent agent.

↓

The superintelligent agent decides to (iii) eliminate humans, so that it can continue producing paperclips.

↓

The superintelligent agent uses atoms from human bodies to make more paperclips.

← To avoid this outcome, the superintelligent agent must have a goal that will benefit (iv) humanity.

8 Find a word or phrase in section V that can be replaced by 'average'.

median

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

9 Do you agree that there is a '50% probability of human-level machine intelligence being developed by mid-century' (lines 33–34)? Explain you answer.

Yes, because technology moves very fast and we already use artificial intelligence in everyday life, such as our phones. // No, because machines will never be as flexible and creative as humans and will only ever be able to do what humans program them to do.

10 According to section V, are the following statements True (**T**), False (**F**) or Not Given (**NG**)? *(3 marks)*

	Statements	**T**	**F**	**NG**
(i)	It is possible that it could take 200 years for human-level intelligence to be developed.	●	○	○
(ii)	Researchers have a year in mind for when human-level intelligence will be achieved.	○	●	○
(iii)	Development of AI is likely to speed up in future.	○	○	●

11 Which word can replace 'protagonists' (line 42)?

A directors

B storylines

C robots

D characters

A	B	C	D
○	○	○	●

12 What does 'something like that' (line 50) refer to?

(A scenario where) we are all dead and then the Earth is turned into a big computer that performs some esoteric computation for the next billion years.

13 With reference to section VI, indicate where the following scenarios would appear. *(3 marks)*

	Novels or movies	**Likely reality**
(i) A group of humans find it difficult to work together.	●	○
(ii) Not much happens, followed by one major, terrible event.	○	●
(iii) The enemy always has one weakness.	●	○

14 i) What does 'a platoon of square-jawed men' (lines 50–51) imply? *(1 mark)*

It implies that strong/masculine army soldiers will do the fighting.

ii) Why might the writer have used this phrase? *(1 mark)*

The writer might have used this phrase because he/she thinks this is a cliché // because such characterization is common in novels or movies // he/she often comes across that in novels or movies.

Answers written in the margins will not be marked.

Go on to the next page

15 Complete the summary of section VI by choosing the best answer that will complete the missing information. Blacken ONE circle only for each question. *(4 marks)*

> Hollywood movies generally only feature storylines that will __(i)__ us. In such films, the actors must __(ii)__ within a timeframe that is just long enough for an interesting plot. These people must find a way to __(iii)__ and find the weak spot of their enemy. A true-to-life storyline would be much more __(iv)__ than plots invented by Hollywood scriptwriters.

			A	B	C	D
(i)	A	create an emotional response in				
	B	challenge				
	C	amuse and interest	○	○	●	○
	D	educate				
(ii)	A	overcome difficulties				
	B	be believable				
	C	defeat enemies	○	○	○	○
	D	grab our attention	●			
(iii)	A	develop new technology				
	B	work side by side				
	C	understand their strengths	○	●	○	○
	D	express their emotions				
(iv)	A	complicated				
	B	difficult to understand				
	C	action-packed	○	○	○	●
	D	abrupt and boring				

16 According to section VII …

i) Who designs AI plans in Hollywood movies? *(1 mark)*

humans

ii) How is this different from reality? *(1 mark)*

The superintelligent agent designs plans (that would likely work) in reality.

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

17 If machines become too intelligent, will it be difficult to stop them? Find ideas mentioned in section VII and match them with the examples given in the column on the right. *(2 marks)*

Idea mentioned in section VII	Examples
(e.g.) Even systems that have no independent will and no ability to plan can be hard for us to switch off.	It is probably not possible to turn off the Internet.
i) The plans created by a real superintelligence would very likely work.	Machines which are more intelligent than humans would probably find a successful way to protect themselves.
ii) A free-roaming superintelligent agent would be able to anticipate that humans might attempt to switch it off and take precautions to guard against that eventuality.	Artificially intelligent machines could create a self-protection system.

18 Do you agree that the question of whether we should stop building AIs is 'somewhat idle' (line 68)? Explain your answer.

Yes, because AI technology already exists so it cannot be 'uninvented'. // No, because AI poses a serious threat to mankind and there may come a time when we need to stop developing it / because there is no prospect of us actually building AIs.

19 According to section VIII, why might artificial intelligence still pose a risk, even if it does not have a physical form?

Because it may be able to manipulate humans to do what it wants or to give it access to develop its own technological infrastructure.

Answers written in the margins will not be marked.

Go on to the next page

20 Below are comments made by some of the people mentioned in Text 1. Match each person with one comment. Use each letter ONCE only. One comment is not used and you should select 'Not Applicable'. *(5 marks)*

A. Nick Bostrom	B. AI researchers	C. Superintelligent agent
D. AI experts surveyed	E. Not Applicable	

Comments:	**Person**
(i) Don't try to stop me, or I will stop you first.	C
(ii) It is likely that machines will be as clever as humans by 2050.	D
(iii) It is likely that humans will soon be replaced by more advanced apes.	E
(iv) Once people can use a technology successfully, we no longer refer to it as 'AI'.	B
(v) Hollywood tends to focus more on storylines than on real science.	A

21 Match the missing questions to the correct section of the text. Write the number corresponding to each section (VI–VIII) in the box next to the questions. One is **NOT** used and should be left blank. *(3 marks)*

	Question	**Section**
i)	If machines became more powerful than humans, couldn't we just end it by pulling the plug? Removing the batteries?	VII
ii)	How do you teach a robot to become an independent thinker?	
iii)	So should we stop building robots?	VIII
iv)	So would this be like *Terminator*?	VI

22 Which of the following is the best alternative title for Text 1?

A Why we should stop developing AI right now

B The limited usefulness of AI

C The unclear future of AI

D How AI puts us all in danger

A	B	C	D
○	○	●	○

END OF PART A

Answers written in the margins will not be marked.

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Answers written in the margins will not be marked.

HONG KONG DIPLOMA OF SECONDARY EDUCATION EXAMINATION

B1
EASY SECTION

MOCK TEST 37
ENGLISH LANGUAGE PAPER 1

PART B1

Reading Passages

1 hour 30 minutes

(for both Parts A and B)

GENERAL INSTRUCTIONS

(1) Refer to the General Instructions on Page 1 of the Reading Passages booklet for Part A.

INSTRUCTIONS FOR PART B1

(1) The Question-Answer Book for Part B1 is inserted after this Reading Passages booklet.

(2) Candidates who choose Part B1 should attempt all questions in this part. Each question carries ONE mark unless otherwise stated.

(3) Hand in only ONE Question-Answer Book for Part B, either B1 or B2.

Part B1

Read Text 2 and answer questions 23–44 in the Question-Answer Book for Part B1.

Text 2

I. _____

[1] For years, environmental groups and government campaigns have been telling Hongkongers to use less, to reuse more and to recycle. We understand the logic for this and we see the evidence for it every day: shocking photos of rivers in the Philippines choked with plastic bottles or of a dolphin's stomach crammed full of plastic bags. We know that our environment is straining under the weight of waste, yet our behaviour towards the use and disposal of waste has not changed.

[2] According to the Environmental Protection Department, 15,332 tonnes of solid waste were disposed of every day at landfills in 2016. Far from disposal rates decreasing, this represents an increase of 1.5 per cent compared to 2015. Furthermore, recycling rates are not increasing: in 2016 the amount of solid waste recyclables recovered was 1.91 million tonnes, down 5.9 per cent compared to 2015.

[3] Toby Lam, a green activist, paints a bleak picture. 'Hong Kong generates more waste per person than any other developed city in Asia, such as Tokyo and Taipei,' he says. 'The government's goal is to reduce waste by 37 per cent per capita, from 1.27 kg a day in 2011 to 0.8 kg in 2022, but this is not looking achievable at the moment.'

[4] It is clear that drastic action is needed. We are producing more and more waste, and our options for dealing with it are diminishing. For too long, Hong Kong has relied on landfill sites to dispose of its waste. Given that land is scarce and expensive in Hong Kong, and that existing landfill sites are almost full, there is no doubt that landfills are a precious resource that should be used only as a last resort. Of course, there will always be some waste materials that cannot be recycled, but rather than dumping these in landfills, we need to find new and innovative ways of dealing with our waste, and of reducing the amount of waste produced in the first place.

II. _____

[5] Every day, 3,600 tonnes of food waste are produced in Hong Kong. One-third of this comes from business and industry, such as restaurants and wet markets, and the rest comes from private households. In 2012, 36 per cent of waste at landfill sites was food waste, the largest category. This is a chronically wasteful use of space at landfill sites, especially as food waste is mostly easily biodegradable. Furthermore, disposal of food waste at landfill sites creates methane gases and contaminants that can leak into the water supply. More money must then be spent to clear up these hazards. Zara Mak is an advocate of the Food Recovery Scheme, which aims to tackle the problem of food waste. 'When food is dumped at a landfill, its organic contents are not put to good use,' she says. 'With the Food Recovery Scheme, we would collect food waste from homes, schools, hospitals and businesses and turn it into useful products like biogas and compost.' A pilot scheme has already been launched and the construction of Organic Resources Recovery Centres is planned across Hong Kong.

III. _____

[6] Hong Kong has a serious plastic problem. Twenty per cent of all waste going into landfills is plastic—that's almost 2,000 tonnes a day. When you consider that much of this plastic could be recycled, this is a shocking waste of landfill space. To add to Hong Kong's woes, the Mainland has stopped accepting imported waste plastic and paper for recycling, so another disposal route is closed to us. It is evident that real change is necessary.

[7] Chief Secretary for Administration Matthew Cheung Kin-chung has stated that 'There are two major challenges in handling plastic waste. First, costs of collection, sorting, storage and transport are high because

plastic waste is of low density, great in variety and large in size. On the other hand, prices of raw plastic materials have remained low. Therefore the recycling rate is not high.' The government has launched a pilot scheme to address this problem. It will pay recycling companies to collect plastics from homes and businesses. They must then sort and clean the plastic, melt it down and make it into new products or materials. The scheme will be run in three districts to begin with and will be rolled out to the whole of Hong Kong if it proves successful.

IV. _____

[8] A further weapon in the government's arsenal is the solid waste charge, whereby the waste producer must pay to dispose of waste. The rationale is that if we must pay for the waste we produce, we are likely to produce less of it. The charge is due to be introduced in 2019, but no legislation is yet in place. This tactic does not have universal support, however. Social psychologist Robert Cialdini explains that in order to change behaviour, we should reward, not punish. For example, awards and public recognition for neighbourhoods that work hard to reduce waste and recycle are likely to have a bigger effect than fines that punish us for failing to reduce the amount of waste we produce. Furthermore, the threat of fines could result in waste disposal going 'underground', for example with an increase in fly-tipping.

[9] It's obvious that we have an uphill battle ahead of us. In the end, major waste reduction will only come about with a change in mindset. The answer may lie with Hong Kong's younger generation, who are becoming more aware of the environment around them, and how to protect it.

END OF READING PASSAGES

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MOCK TEST 37
ENGLISH LANGUAGE
PAPER 1 PART B1
QUESTION-ANSWER BOOK

B1
EASY SECTION

Write your Candidate Number in the space provided on this page.
Read Text 2 and answer questions 23–44. *(42 marks)*

Text 2

23 Based on the information in paragraph 1, complete the summary by writing ONE word in each blank. You should make sure that your answers are grammatically correct. *(2 marks)*

For years, Hongkongers have been (i) told that they should reduce, reuse and recycle. We read stories about rivers full of plastic bottles and the impact of plastic waste on wildlife. All this waste puts a (ii) strain//burden on the environment, yet we are doing little to change the situation.

24 Complete the following sentence using the information in paragraph 2.

The current waste-disposal strategy is not working because recycling rates are falling and solid waste disposal rates are increasing/growing/climbing/rising/going up.

25 Using the information given in paragraphs 2 and 3, complete the table with the missing percentages. *(3 marks)*

i) The government wants to reduce waste by 37 per cent per person by 2022.	ii) Rates of waste disposal climbed by 1.5 per cent between 2015 and 2016.	iii) The amount of waste recycled fell by 5.9 per cent between 2015 and 2016.

26 Find a word in paragraph 4 which has a similar meaning to 'imaginative'.

innovative

27 Why are landfill sites NOT a long-term solution to the waste problem? Find ideas mentioned in paragraph 4 and match them with the examples given in the column on the right. *(2 marks)*

Idea mentioned in paragraph 4	Examples
(e.g.) Land is scarce and expensive in Hong Kong.	Much of the land is mountainous and the amount of flat land is small, so land prices are high.
i) Landfill sites are a precious resource that should only be used as a last resort.	Landfills should be used only for waste that cannot be reused or recycled.
ii) Existing landfill sites are almost full.	Landfill sites are expected to have no more room by 2022.

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Go on to the next page

28 What does 'the rest' (line 24) refer to?

Two-thirds of Hong Kong's food waste / Two-thirds of the (3,600 tonnes of) food waste (produced) in Hong Kong

29 In paragraph 5, 'these hazards' (line 28) refers to methane gases and contaminants that can leak into the water supply.

30 This flow chart shows the sequence of events described in paragraph 5 when food waste is dumped at landfill sites. Fill in each blank with a word or phrase from paragraph 5. *(3 marks)*

Food waste is dumped at a landfill site.

↓

The waste quickly begins to break down because it is (i) biodegradable.

↙ ↘

(ii) Methane gases are produced.	Pollutants contaminate the (iii) water supply.

31 According to paragraph 5, what two useful products could food waste be turned into?

biogas and compost

32 Find a word in paragraph 6 that can be replaced by 'troubles'.

woes

33 According to paragraph 6, are the following statements True (**T**), False (**F**) or Not Given (**NG**)? *(3 marks)*

	Statements	**T**	**F**	**NG**
(i)	One-tenth of the rubbish going into landfills is plastic.	○	●	○
(ii)	Workers at landfill sites are often shocked by the amount of waste.	○	○	●
(iii)	Mainland China used to recycle Hong Kong's waste plastic.	●	○	○

34 According to paragraph 6 …

i) How many tonnes of plastic are dumped in landfill sites every week? *(1 mark)*

14,000

ii) Why does the writer find this fact shocking? *(1 mark)*

Because much of the plastic could be recycled

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

35 What two challenges does the plastic recycling industry face?

high costs of collection, sorting, storage and transport, and low prices of raw plastic materials

36 What/Who does 'They' (line 45) refer to?

recycling companies

37 What is the meaning of 'rolled out' (line 46)?

A checked

B introduced

C advertised

D accepted

A	B	C	D
○	●	○	○

38 With reference to paragraph 7, indicate the party responsible for each action. *(3 marks)*

	The government	**Recycling companies**
(i) Picking up used plastic	○	●
(ii) Funding the scheme	●	○
(iii) Recycling the waste	○	●

39 Find a word in paragraph 8 which means 'the reason for a decision'.

rationale

40 Do you agree that in order to change people's behaviour, 'we should reward, not punish' (line 53)? Explain your answer.

Yes, because people will be more motivated to change their behaviour if they think they will be praised or rewarded. // No, because some people will only ever change their behaviour if they suffer some kind of loss, i.e. a fine.

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Answers written in the margins will not be marked.

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41 Complete the summary of paragraph 8 by choosing the best answer that will complete the missing information. Blacken ONE circle only for each question. *(3 marks)*

> The solid waste charge aims to reduce waste by __(i)__. Another approach is to reward neighbourhoods that __(ii)__, rather than punishing those who don't. One potential problem with the solid waste charge is that people might __(iii)__ rather than pay a fee to dispose of it properly.

(i)
- A investing in more recyclable materials
- B funding more waste collection schemes
- C forcing waste producers to recycle their waste
- D forcing waste producers to pay for disposal

A	B	C	D
○	○	○	●

(ii)
- A work together in a cooperative manner
- B meet recycling targets
- C keep their local areas clean and tidy
- D stop local people from littering

A	B	C	D
○	●	○	○

(iii)
- A bury their rubbish on the ground
- B burn their rubbish
- C dump their rubbish illegally
- D leave their rubbish in a neighbour's bin

A	B	C	D
○	○	●	○

42 Below are comments made by some of the people mentioned in Text 2. Match each person with one comment. Use each letter ONCE only. One comment is not used and you should select 'Not Applicable'. *(5 marks)*

A. Toby Lam	B. Zara Mak	C. Matthew Cheung Kin-chung
D. Robert Cialdini	E. Not Applicable	

Comments:	**Person**
(i) Rather than discarding food waste, we should treat it as a resource.	B
(ii) We do not do well in comparison to other similar cities in the region.	A
(iii) There are only a few types of plastic recycled in Hong Kong.	E
(iv) Companies can't charge much for plastic, which is one reason why reducing plastic waste is not a priority for recycling businesses.	C
(v) If you want people to change, offer them the chance of public recognition.	D

Answers written in the margins will not be marked.
Answers written in the margins will not be marked.

43 Do you agree that the solution to the local waste problem 'may lie with Hong Kong's younger generation' (line 58)? Explain you answer.

Yes, because young people are more aware of environmental problems and want to help protect the planet. // No, because all generations have a role to play in tackling Hong Kong's waste problem.

44 Match the following subheadings to the correct section of Text 2. Write the section number (I–IV) next to each subheading. One subheading is **NOT** used and should be left blank. *(4 marks)*

Subheading	**Section**
Cutting down on food waste	II
Winning the war against waste	
Solid waste charge	IV
Hong Kong's war on waste	I
Trial scheme for plastics	III

END OF PART B1

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HONG KONG DIPLOMA OF SECONDARY EDUCATION EXAMINATION

B2
DIFFFICULT SECTION

MOCK TEST 37
ENGLISH LANGUAGE PAPER 1

PART B2

Reading Passages

1 hour 30 minutes

(for both Parts A and B)

GENERAL INSTRUCTIONS

(1) Refer to the General Instructions on Page 1 of the Reading Passages booklet for Part A.

INSTRUCTIONS FOR PART B2

(1) The Question-Answer Book for Part B2 is inserted after this Reading Passages booklet.

(2) Candidates who choose Part B2 should attempt all questions in this part. Each question carries ONE mark unless otherwise stated.

(3) Hand in only ONE Question-Answer Book for Part B, either B1 or B2.

Part B2

Read Text 3 and answer questions 45–67 in the Question-Answer Book for Part B2.

Text 3

Turning waste into resource: a win-win situation that should not be missed

[1] Soon after the Flinstones' cartoon period, formally called the Stone Age, humans started to use metals for constructing tools, weapons or ornaments which tremendously boosted human development. Since then, metal utilization has been evolving and nowadays, metals are a central pillar for all kinds of routine and technological uses. You can find aluminium in most of your pots and pans; copper as conductive material in wires or as components in computers, TV sets or disk drives; platinum in car parts to reduce air pollution; gold, silver, platinum, palladium, copper, tin and zinc in cell phones. These are just a few examples of the extensive metal utilization to which society has succumbed. Look around you right now and try to picture your world without metals … difficult, right?

[2] The metal mining industry needs to satisfy this increasing societal demand for metals. However, most of the high quality ores have been mined already. That leaves only ores with lower quality (low content of target metal and high content of undesired metals like arsenic) for future generations. This results in more metal-ores being processed and, therefore, a large amount of solid waste generated, around 20,000–25,000 megatons per year. This mining waste is often contaminated with high amounts of metals. This represents a serious threat to the environment because many toxic metals then soak into water sources.

[3] Careless management of this solid waste in the past and present has resulted in the formation and release of acidic water, contaminated with a wide range of toxic heavy metals. This acidic water continuously threatens the health of many life-forms on earth including humans (for example via contamination of drinking water sources). These hazardous water sources have not been contained, stored or limited in any way, and this has created big environmental problems over the last century, and continues to do so. We have recently witnessed terrible accidents related to mine waste storage failures. On 5 November 2015, an earth wall collapsed at a mine in Brazil, and around 60 million cubic meters of iron and other metals flowed into the Doce River. This destroyed the nearby village of Bento Rodrigues (Minas Gerais), killed 13 people, and caused huge environmental pollution. Additionally, over a hundred other similar accidents took place in the last century. Local communities had to watch metal-coloured waters from mines flow into their pristine mountain streams on which they relied for drinking water and agriculture. Besides failures like these, there were many other critical mine-associated problems all over the world. For instance, in South Africa, acid mine drainage affected the drinking water supply in 2012 with low-pH water contaminated with uranium. This led to an interrupted drinking water supply that lasted for months. With water stress already being a worldwide challenge, the water that still is available should be protected and not polluted with toxic metals.

[4] Surely many factors contributed to these tragedies, but there is a direct connection with the mismanagement of governments and companies that often operate in developing countries, far away from their administrative centres. In the Environmental Justice Atlas (filtered by 'Mineral Ores and Building Materials Extractions'), we can visualize the number of conflicts (protest and accidents) related with mine industries. We can also see the 'Not In My Back Yard' effect; usually the biggest mining companies are from Australia/the UK (BHP Billiton or Rio Tinto) or China (China Shenhua Energy), but most of the problems took place in Central and South America. Even when mining takes place in developed countries, the remoteness of metal-affected areas still keeps it away from the top of the political agenda.

[5] We have to face the fact that we need metals if we want to keep our standard of living or increase it in developing countries, so mining is just necessary, now and in the foreseeable future. But what is unacceptable is that our society keeps on ignoring the vast environmental and socio-economic problems that are a direct effect of mining activities. We still have time to prevent new disasters by raising awareness and taking the right measures; this is the right and the duty that we have as citizens of our society.

[6] Since most of the problems are legacies of past mining activities with a huge ongoing impact on the environment and society, we should demand that our governments find solutions, even if this means taking over the management of waste materials. Secondly, governmental bodies should force operating mining companies to stop offloading the global environmental costs of their activities. Thirdly, and most importantly, more sustainable mining and recovery of metals should be stimulated where metals get a sustainability certificate, just like hard wood.

[7] It will take time to make the change, and it will require funding and other resources. The positive side about advocating for metal recovery is that it will actually be economically beneficial for companies. As mentioned, after mining activities, water containing a mixture of heavy metals is generated. Usually, one specific mine focuses on one specific metal and the rest of the ore is considered waste and disposed of as such. But this toxic waste contains many metals that can be recovered and used in a sustainable way. A way to do it is using sulfate-reducing microorganisms, which are able to reduce the level of sulfate and produce sulfide. The sulfide reacts with metals and forms metal sulfides. A peculiarity of metal sulfides is that different metals separate from the water at different pH values (copper is very insoluble even at a low pH while iron needs a higher pH to separate from water). Therefore, if the metal-laden water is consequently treated at different pH values using sulfate-reducing microorganisms, different metal sulfides will be extracted one by one. The metals in the form of sulfides are very stable and dense enough to be separated and reused again in smelters or other applications. Since many metals are valuable resources, the mining companies can use this metal recovery for economic benefit. There are numerous examples in scientific literature and on-going technological applications which have proven the successful implementation of microorganisms for treating metal wastes. In this way, not only do we focus on waste treatment, we also aim to avoid waste generation altogether by turning potential waste into a resource. We can change mining practices by using microorganisms and we can decrease the hazards of mining waste storage, thereby respecting the planet where we and future generations have to live.

[8] Since this sustainable technology is available and even economically attractive, we encourage innovation and application by the industry from the beginning of the design of their mines. For cases where the economic benefit threshold is smaller, governments should implement adequate laws in order to prevent further unnecessary environmental accidents linked to human industrial activities. It is time for a change.

END OF READING PASSAGES

From *Turning waste into resource: a win-win situation that should not be missed* by Irene Sánchez-Andrea and Jan Weijma.

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MOCK TEST 37
ENGLISH LANGUAGE
PAPER 1 PART B2
QUESTION-ANSWER BOOK

B2
DIFFICULT SECTION

Write your Candidate Number in the space provided on this page.

Read Text 3 and answer questions 45–67. *(42 marks)*

Text 3

45 What time does 'then' (line 2) refer to?

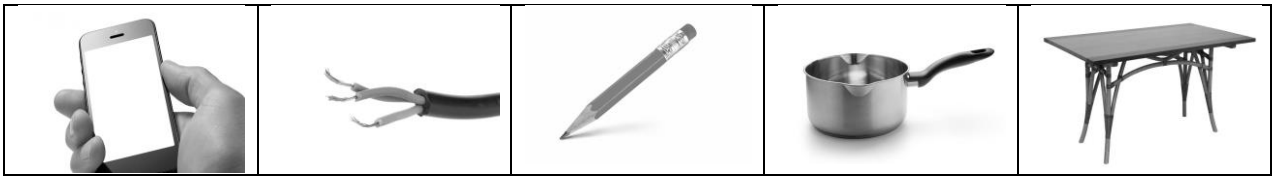
the Stone Age

46 Do you agree that you would find it difficult 'to picture your world without metals' (line 8)? Explain your answer.

Yes, because metal exists in so many objects that we use in everyday life. // No, because there are lots of objects that do not contain metals and we could find alternatives to metals.

47 Which two products are NOT mentioned in paragraph 1 as items containing metal? Write the letters for the two products in the boxes below. *(1 mark)*

A B C D E



Product [C] and product [E] .

48 Why is it difficult to find high-quality ores?

Because most of them have already been mined

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49 Complete the summary of paragraph 2 by choosing the best answer that will complete the missing information. Blacken ONE circle only for each question. *(4 marks)*

> Society will continue to need metals, and the mining industry will __(i)__. However, only low-quality metal ores containing __(ii)__ remain. This means __(iii)__ ores must be mined, resulting in more waste. This is problematic because toxic metals inside the waste __(iv)__ in the surrounding environment.

			A	B	C	D
(i)	A	find new sources of metal				
	B	continue to make profits				
	C	respond to this demand	○	○	●	○
	D	always damage the environment				
(ii)	A	low quantities of the required metal				
	B	high quantities of the required metal				
	C	higher levels of pollutants	A	B	C	D
	D	rare and expensive metals	●	○	○	○
(iii)	A	difficult-to-find				
	B	only certain types of				
	C	lower quantities of	A	B	C	D
	D	greater quantities of	○	○	○	●
(iv)	A	are eaten by animals				
	B	leak into the water				
	C	create air pollution	A	B	C	D
	D	contaminate the soil	○	●	○	○

50 What does 'this solid waste' (line 15) refer to?

the solid waste generated after (large quantities of) low-quality ores have been mined // the solid waste generated from mining low-quality ores

51 Find a word or phrase in paragraph 3 which means 'dangerous'.

hazardous

52 According to paragraph 3, are the following statements True (**T**), False (**F**) or Not Given (**NG**)? *(3 marks)*

	Statements	**T**	**F**	**NG**
(i)	Water polluted with heavy metals has not been well managed in the past.	●	○	○
(ii)	Some farmers have left Bento Rodrigues because water sources are so polluted.	○	○	●
(iii)	Water is a resource that is easily renewable and needs little protection.	○	●	○

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53 What does the phrase '"Not In My Back Yard" effect' (line 35) suggest about people's attitude towards pollution of the natural environment?

People don't want to see pollution of the natural environment near where they live (but are not so concerned if it happens far away from them).

54 Do you agree that it is the remote location of mining areas that keeps mining problems 'away from the top of the political agenda' (line 38)? Explain you answer.

Yes, because if politicians are not able to easily see and understand the problem, they will be less motivated to try to solve it. // No, because if a problem is serious enough, politicians should deal with it urgently, regardless of where it is happening.

55 Below are comments made by some of the people mentioned in paragraphs 3–4. Match each person with one comment. Use each letter ONCE only. One comment is not used and you should select 'Not Applicable'. *(4 marks)*

A. Bento Rodrigues villager	B. Resident of South Africa
C. BHP executive	D. Not Applicable

Comments:	**Person**
(i) For a long time, we could only drink bottled water.	B
(ii) Members of my family died in a terrible accident.	A
(iii) We have done a lot to make mining safer.	D
(iv) The problems happen a long way from where I live and work.	C

56 Based on the information in paragraph 5, complete the summary by writing ONE word in each blank. You should make sure that your answers are grammatically correct. *(3 marks)*

If we want to maintain and improve living (i) standards, mining is essential. But society cannot continue to ignore the negative consequences of mining for society, the economy and the (ii) environment. All of us must help (iii) raise awareness of the problem in order to stop future disasters from happening.

57 Do you agree that 'society keeps on ignoring the vast environmental and socio-economic problems that are a direct effect of mining activities' (lines 41–42)? Explain your answer.

Yes, because most of us buy new phones or electronic equipment and give very little thought to where the metals inside the products come from. // No, because people are becoming more concerned about the environment, and if they knew more about this issue, they would do more.

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58 Which is the best definition of 'legacies' (line 44)?

A environmental damage that can never be repaired

B things that exist as a result of the events that happened before

C business practices that create a lot of profit

D legal issues that are difficult and expensive to resolve

A	B	C	D
○	●	○	○

59 What solutions to the problem of mining waste are there? Find ideas mentioned in paragraph 6 and match them with the examples given in the column on the right. *(2 marks)*

Idea mentioned in paragraph 6	Examples
(e.g.) Our governments should find solutions, even if this means taking over the management of waste materials.	Countries can introduce laws about how metals should be recycled.
i) Governmental bodies should force operating mining companies to stop offloading the global environmental costs of their activities.	Mining companies must start recycling their own waste, rather than selling it to other companies.
ii) More sustainable mining and recovery of metals should be stimulated.	Metal that is mined responsibly should receive official certification.

60 According to paragraph 6 …

i) What is the current effect of past mining activities? *(1 mark)*

They have a huge impact on the environment and society.

ii) How could metals be treated in a similar way to other raw materials? *(1 mark)*

They could be given a sustainability certificate, like hard wood.

61 According to paragraph 7, what can be used to reduce the level of sulfate in the water?

(sulfate-reducing) microorganisms

62 In paragraph 7, the writer discusses the success of metal waste treatment. What two sources of evidence does he/she give for this?

examples in scientific literature and on-going technological applications

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63 According to paragraph 7, what are the benefits of waste regeneration? For each benefit, tick (✓) 'Mentioned in the text' or 'Not mentioned in the text'. *(5 marks)*

	Benefit	Mentioned in the text	Not mentioned in the text
i)	saves companies money	✓	
ii)	reduces the amount of waste produced	✓	
iii)	is less dangerous for workers		✓
iv)	creates a valuable resource	✓	
v)	reduces damage to the environment	✓	

64 What does 'threshold' (line 70) mean in this context?

A an expected loss of money

B the entrance to a building or room

C the point at which something starts to have an effect

D at the beginning of something new and important

A	B	C	D
○	○	●	○

65 Complete the following sentence using the information in paragraph 8.

Because sustainable technology is useful and can save companies money, it should be used from the beginning of the design of their mines.

66 Which word best describes the writer's tone in paragraph 8?

A amused

B determined

C concerned

D critical

A	B	C	D
○	●	○	○

67 Match the following subheadings to the correct paragraph of Text 3. Write the paragraph number (5–8) next to each subheading. One subheading is **NOT** used and should be left blank. *(4 marks)*

Subheading	Paragraph
We need to make changes in order to continue mining	5
Technology and laws should be used immediately	8
Advantages of metal recovery	7
Scientists have found a new solution	
Governments must play a greater role	6

END OF PART B2

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