


Section A


Study the online campaign (Text 1) and the social media post (Text 2) and answer Questions 1 - 4 in the Question Paper.

Text 1 is taken from an online campaign about food waste.


**A
HIDEOUS
ORANGE**
MAKES
BEAUTIFUL
JUICE.



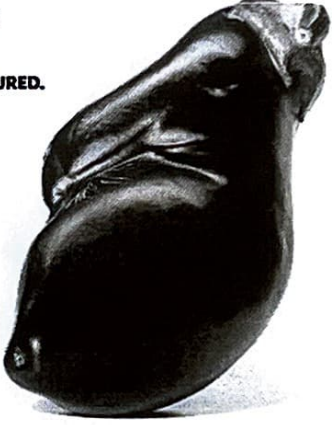
**A
GROTESQUE
APPLE**
A
DAY
KEEPS
THE
DOCTOR
AWAY
AS
WELL.



**THE
FAILED
LEMON**
FROM
THE
TERRACES
OF
THE
LEMON



**THE
DISFIGURED
EGGPLANT**
SO
CHEAP
IT
COULD
BE
EVEN
MORE
DISFIGURED.



World Food Day 16 October 2023.
Join these inglorious foods for a glorious fight against food waste.

Text 2 is taken from a social media post about food waste.

Discrimination does not only have to do with humans. Discrimination against ugly vegetables, treating them like trash, only because of their looks, not their nutritional worth, leads to an enormous amount of food waste, which could feed a lot of hungry people amongst us. Let's reverse the fate of ugly food from waste to delicious, perfectly edible and nutritious food!

Section B

Text 3

The text below is the account of Sir Ernest Shackleton's struggle to survive with a crew of five men aboard the *James Caird*, as he travelled through the Drake Passage to seek help for his men stranded on Elephant Island.

Read the text carefully and answer Questions 5 -14 in the Question Paper.

- 1 The little group of dark figures waving goodbye were silhouetted against the white snow, and they made a pathetic picture from the *Caird* as she lifted to the increasing swell. Worsley held her on a northerly course and Shackleton stood beside him, alternately peering ahead at the approaching ice, and turning again to look at the men he was leaving behind. Both groups knew they might never see one another again. 5
- 2 A forbidding-looking place, Elephant Island was the refuge of twenty-two men who, at that very moment, were camped on a precarious, storm-washed spit of beach, as helpless and isolated from the outside world as if they were on another planet. Their plight was known only to the six men in this ridiculously little boat, whose responsibility now was to prove that all the laws of chance were wrong – and return with help. It was a staggering trust. 10
- 3 As darkness deepened, Shackleton confided to Worsley that the decision to separate the party had been a desperately difficult one, and he abhorred having to make it. But somebody had to go for help, and this was not a task to be delegated to another person. As for the journey itself, Shackleton seemed strangely doubtful, and he asked Worsley about their chances of making it. It was evident Shackleton was far from convinced though Worsley was sure they would make it. 15
- 4 The truth was that Shackleton felt rather out of his element. He had proved himself on land. He had demonstrated there beyond all doubt his ability to pit his matchless tenacity against the elements – and win. But the sea is a different sort of enemy. Unlike the land, where courage and the simple will to endure can often see a man through, the struggle against the sea is an act of physical combat, and there is no escape. It is a battle against a tireless enemy in which man never actually wins; the most that he can hope for is not to be defeated. It gave Shackleton a feeling of uneasiness. He now faced an adversary so formidable that his own strength was nothing in comparison, and he did not enjoy being in a position where boldness and determination count for almost nothing, and in which victory is measured only in survival. But more than anything he was dreadfully tired, and he wanted simply for the journey to be over, and as quickly as possible. 20 25
- 5 One at a time, they were introduced to the endless miseries which constituted life on board the boat. Always and forever, there was the all-pervading, inescapable water. They had sailed from Elephant Island in rather high spirits, knowing that they were embarked at last for civilization. But after two days of uninterrupted misery, their cheeriness had worn away. And by noon on April 26, the ordeal to which they were committed had become altogether too real. There was only the consolation that they were making progress – at the agonizingly slow rate of about 1 mile every half hour or so. 30 35
- 6 This was the Drake Passage, the most dreaded bit of ocean on the globe – and rightly so. Here, nature has been given a proving ground on which to demonstrate what she can do if left alone. The results are impressive. 40

- 7 It begins with the almost ceaseless, gale-force, westerly winds, often of hurricane intensity and with gust velocities sometimes attaining 150 – 200 miles per hour. Once every ninety seconds or less, the *Caird's* sail would go slack as one of these gigantic waves loomed astern, possibly 50 feet above her, and threatening, surely to bury her under a hundred-million tons of water. But then, by some phenomenon of buoyancy, she was lifted higher and higher up the face of the onrushing swell until she found herself, rather unexpectedly, caught in the turmoil of foam at the summit and hurtling forward. 45
- 8 Over and over again, a thousand times each day, this drama was re-enacted. Before long, to the men on board the *Caird*, it lost all elements of awesomeness and they found it routine and commonplace instead, as a group of people may become inured to the perils of living in the shadow of an active volcano. 50
- 9 Fortunately, for the first time in forty-four hours, the weather gradually grew less violent. Shortly after noon, as if from nowhere, a magnificent wandering albatross appeared overhead. It soared with ease and grace, riding the gale on wings that never moved, rising, only to plunge downward again in a beautifully effortless sweep. 55
- 10 It was perhaps one of nature's ironies. Here was her largest and most incomparable creature capable of flight, whose wingspread exceeded 11 feet from tip to tip, and to whom the most violent storm was meaningless, sent to accompany the *Caird*, as if in mockery of her painful struggles. 60

Adapted from "Endurance: Shackleton's Incredible Voyage" by Alfred Lansing.

Section C

Text 4

The article below explores the issue of seabed mining.

Read the article carefully and answer Questions 15 – 19 in the Question Paper.

- 1 In October of last year, a massive remote-controlled machine, weighing 90 tons and resembling a small house, was deployed on the Pacific Ocean seabed. Lowered from an industrial ship using a lengthy cable, equipped with lights, steel treads, and water jets, it began moving forward. The machine stirred up sediment and dislodged fist-sized black rocks known as polymetallic nodules, which contain valuable metals essential for electric car manufacturing. The Metals Company, based in Canada, retrofitted the ship for sea mining and conducted the first test of their collection system. They are among many enterprises vying for the lucrative market opportunities presented by these underwater resources. 5
- 2 The world's long-overdue, fitful transition to renewable energy is hobbled by an Achilles' heel: it requires staggering quantities of natural resources. Manufacturing enough electric vehicles to replace their fossil-fueled counter-parts will require billions of tons of cobalt, lithium, copper, and other metals. To meet the exploding demand, mining companies, carmakers, and governments are scouring the planet for potential mines or expanding existing ones, from the deserts of Chile to the rain forests of Indonesia. Meanwhile, what might be the richest source of all—the ocean floor—remains untapped. The US Geological Survey estimates that 21 billion tons of polymetallic nodules lie in a single region of the Pacific, containing more of some metals (such as nickel and cobalt) than can be found in all the world's dry-land deposits. 10 15
- 3 The prospect of seabed mining has triggered a strong backlash, with environmental groups, scientists, and some corporations expressing concerns about its potential impact. The oceans play a crucial role in biodiversity, food production, and isolating carbon from the environment, making the potential consequences of this unprecedented intrusion uncertain. Calls for a temporary suspension of deep-sea mining have come from the European Parliament, Germany, Chile, Spain, Pacific island nations, and numerous organizations. While it is expected that some countries are against the mining, opposition has also come from other parts of society. Several banks have refused to provide loans to ocean-mining ventures. Even popular figures like Jason Momoa, known for his portrayal of Aquaman, have spoken out against sea mining. 20 25
- 4 Seabed mining poses significant risks to the world's oceans at every stage of the process. The machinery used to extract nodules from the ocean floor can cause damage to the delicate ecosystem, home to corals, sponges, and various organisms that rely on the nodules for survival. Removing these nodules, which have formed over millions of years, is believed to have irreversible consequences. Concerns also exist about the release of carbon embedded in the ocean floor, potentially disrupting the ocean's ability to sequester carbon. There are also issues with the mining process. The disturbance caused by collector vehicles stirs up silt and clay, creating sediment plumes that can cloud the water for extended periods, suffocating marine life and potentially containing toxic substances. While polluting the waters is a major issue, scientists have also discovered that the noise and light generated by the mining operations can disrupt the natural habitat of creatures adapted to silence and darkness, affecting their navigation and ability to find food and mates. 30 35 40

- 5 The Metals Company remains undeterred by any obstacles, firmly stating that the most significant threat to our planet is the combination of climate change and the loss of biodiversity. It emphasizes that we cannot afford to waste time and need to take immediate action. By the conclusion of the trial in October of last year, the vehicle had successfully transported over 3,000 tons of polymetallic nodules, forming an impressive black pyramid towering almost four stories high. The company confidently assures the press that this achievement is merely the start of something much greater. 45
- 6 Despite the optimism of the Metals Company, the potential risks related to their endeavours highlight the potential harm that seabed mining can cause to the delicate marine ecosystems, exacerbating the already stressed state of the oceans due to pollution, overfishing, and climate change. 50

Adapted from "Depth Charge" by Vince Beiser, Wired Magazine, April, 2023.

END OF INSERT

Section A [5 marks]

Refer to the online campaign (**Text 1**) and the social media post (**Text 2**) on page 2 of the Insert for Questions 1 – 4.✓

- 1 Look at Text 1. Tick (✓) the most effective title for this campaign.

☐

Trash

☐

Weird fruits and vegetables

☐

Taste, don't waste

[1]

- 2 Refer to Text 2. What does 'reverse the fate of ugly food' urge readers to do?

..... [1]

- 3 Identify the phrase in Text 1 which reflects the aim in Text 2.

..... [1]

- 4 Look at Texts 1 and 2 and statements (a) and (b) below.

Decide whether the statements refer to Text 1, Text 2, both texts, or neither text.

Circle the answer you have chosen for each statement.

- (a) Readers are asked to join the writer in taking action.

Text 1 / Text 2 / Both / Neither

- (b) The tone suggests the readers believe in combating food waste.

Text 1 / Text 2 / Both / Neither

[2]

Section B [20 marks]

Refer to **Text 3** on pages 3 - 4 of the Insert for Questions 5 - 14.

- 5 In Paragraph 1, why do you think Shackleton was alternating between looking at the approaching ice and the men he left behind?

.....
 [1]

- 6 In Paragraph 2, Elephant Island was described as 'forbidding-looking' (line 6), and 'a precarious, storm-washed spit of beach' (line 7). What do these descriptions suggest about the men's living conditions?

..... [1]

- 7 'Their plight was only known to the six men...' (lines 8 – 9).
 From Paragraph 2, give **one** other example to show that the men were cut off from civilization.

..... [1]

- 8 In Paragraph 3, Shackleton confided in Worsley that the decision to separate the party 'had been a desperately difficult one' (lines 13 – 14).

(a) Suggest why this was a difficult decision.

..... [1]

(b) Identify **one** word from the paragraph that describes Shackleton's feelings here.

..... [1]

(c) What does Shackleton's perception that he could not delegate the task of going for help tell us about his character?

..... [1]

- 9 In Paragraph 4, Shackleton claimed that 'the sea is a different sort of enemy' (line 20). Explain how this claim is supported, with reference to **three** pieces of evidence from Paragraph 4.

.....

.....

.....

.....

.....

..... [3]

- 10 In Paragraph 5, we are told that 'after two days of uninterrupted misery, their cheeriness had worn away' (lines 33 – 34). Explain in **your own words** why this was so.

.....

..... [2]

- 11 In Paragraph 7, what was so unexpected about the plight of the *Caird*?

.....

..... [1]

- 12 In Paragraph 8, explain in **your own words** why to the men on board the *Caird*, the storm lost 'all elements of awesomeness' (line 50).

.....

..... [2]

- 13 In Paragraph 10, why did the writer refer to the appearance of the albatross as a mockery of the *Caird*'s 'painful struggles' (line 60)?

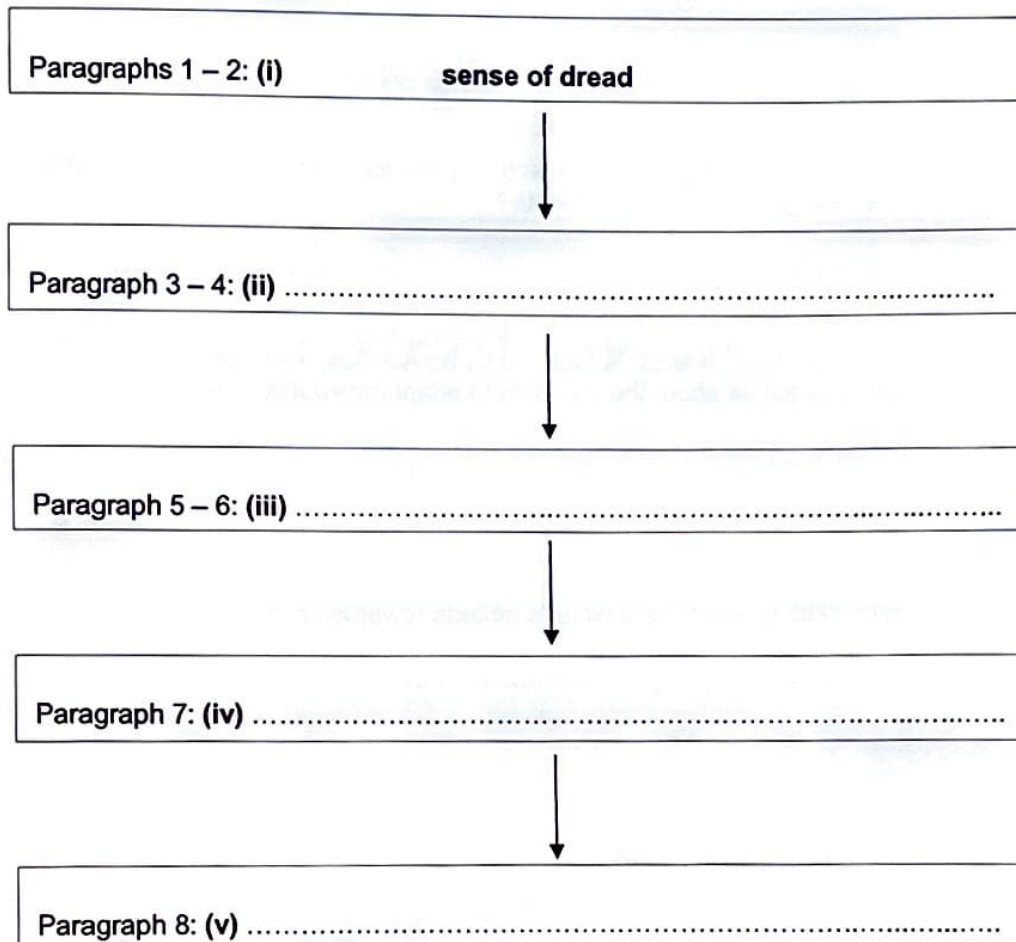
.....

..... [2]

- 14 The structure of the text reflects the different stages of Shackleton's thoughts, feelings, and experiences. Complete the flow chart by choosing one phrase from the box to summarise the main thoughts, feelings and experiences at each stage of his journey. There are some extra phrases in the box that you do not need to use. The first blank has been filled for you.

Shackleton's thoughts, feelings and experiences

paralyzing pessimism feelings of inadequacy sense of fulfillment torturous agony strange sense of normalcy hopeful anticipation harrowing escape
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[4]

Section C [25 marks]

Refer to **Text 4** on pages 5 - 6 of the Insert for Questions 15 - 19.

- 15 With reference to paragraph 1, what **two** pieces of evidence suggest that seabed mining is a new undertaking for the Metals Company?
- (i) [1]
- (ii) [1]
- 16 In paragraph 1, the writer states that there are 'many enterprises vying for the lucrative market opportunities presented by these underwater resources' (lines 8-9).
In **your own words**, explain why the opportunities are 'lucrative'.
-
- [2]
- 17 (a) With reference to paragraph 2, which expression suggests that the adaptation of renewable energy has not been smooth?
- [1]
- (b) The use of renewable energy 'is hobbled by an Achilles' heel' (lines 10-11).
What does this tell us about the attempts to adapt renewable energy?
-
- [1]
- 18 Based on paragraph 6, what is the writer's attitude towards seabed mining?
-
- [1]

- 19 Here is a part of a conversation between two students, Michael and Joyce, who have read the article.



Michael

I think the stakeholders in electric vehicles are desperate about finding more resources.



Joyce

The mining company seems very sure that seabed mining is the way to go.

- (a) Give **one** piece of evidence from Paragraph 2 to support Michael's view.

.....
..... [1]

- (b) Give **two** pieces of evidence from Paragraph 5 to support Joyce's view.

(i)
(ii) [2]

Your summary must be in continuous writing (not note form). It must not be longer than 80 words (not counting the words given to help you begin).

Seabed mining could impact the marine ecosystem as

[illegible]

..... No. of words: [15]

Content	/ 8
Style	/ 7
Total	/ 15

Preliminary Examination 4E EL P2 2023 (1184/02)

[Turn Over