University of Nottingham Ningbo China

CENTRE FOR ENGLISH LANGUAGE EDUCATION

PRELIMINARY YEAR, SEMESTER ONE, 2024-25

READING AND WRITING IN ACADEMIC CONTEXTS

END-OF-SEMESTER MOCK EXAM

Time allowed: TWO Hours

Candidates must write their ID number on the Answer Booklet, code their ID number on the MCQ Answer Sheet, and complete their attendance card.

Do NOT open the examination paper until told to do so.

This exam consists of TWO PARTS:

- **Part 1 - Reading Comprehension (35%)**
- **Part 2 - The Essay (65%)**

No dictionaries or electronic devices are allowed in this exam.

All the answers for Part 1 (Reading Comprehension) must be entered on the MCQ Answer Sheet.

Part 2 (The Essay) must be written in the Answer Booklet.

INFORMATION FOR INVIGILATORS:

A 15-minute warning should be given before the end of the exam.

Please collect the Exam Paper, MCQ Answer Sheet and Answer Booklet after the exam.

Please return Answer Booklets in ID order.

INPUT TEXT ONE

Exploring a Complex Relationship: Climate Change and Food Security

1. _____

Climate change and food security connect in a way that has a huge effect on both the planet and its people. Understanding this connection is crucial. *Climate change* describes long-term alterations in temperature, precipitation (rain and snow) patterns, and other atmospheric conditions partly caused by human activities such as the burning of fossil fuels and deforestation. These changes disrupt natural systems, leading to an increase in global warming and extreme weather events. This can generate food insecurity, the situation in which people do not have reliable access to a supply of food that can meet the dietary needs for a healthy life. This food insecurity varies in degree: *moderate food insecurity* describes the inability to regularly eat healthy, nutritious diets, while *severe food insecurity* is more strongly related to insufficient quantity of food and thus to hunger.

2. _____

Any discussion of food security must consider climate change because the latter can have a substantial impact on the former. Multiple factors play a part in climate change. Greenhouse gas (GHG) emissions are a key driver of **the phenomenon**: the burning of fossil fuels - most notably coal, oil, and natural gas - releases GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) into the atmosphere. These gases trap heat, leading to a general rise in temperatures: global warming. Deforestation is another factor because it reduces the number of trees that absorb CO_2, thereby accelerating the rate at which this global warming occurs. Modern agricultural practices, which include the widespread use of pesticides, are also causing the planet's temperature to rise by releasing GHGs into the atmosphere just as fossil fuels do.

3. _____

Rising temperatures change precipitation patterns, which can have a considerable impact on agricultural cycles, increasing the risk of lower crop yields and even

crop failure. The rising temperatures **intensify** Earth's water cycle because the added heat increases the frequency of water evaporation. This can result in opposite effects depending on where land is located. On the one hand, as temperatures rise, **it can lead** to areas that are already storm-affected experiencing growth in precipitation and more regular flooding, so that even viable crops get washed away and destroyed. Heavy storms can also harm crops by eroding the soil and reducing soil nutrients. On the other hand, areas that are already very dry may experience increased risk of drought (lack of rainfall). In extreme circumstances, extended periods of drought can even lead to *desertification*: a reduction in the productivity of land that - importantly - is not always reversible. Drought hardens the soil so that water can no longer enter, which means that plants do not get the water they need to grow. If the drought ends, but the soil cannot recover, the land is said to be desertified.

4. _____

When weather patterns become less predictable, this introduces uncertainty to agricultural production. Farmers need to plan their planting and harvesting schedules. However, global warming is causing unpredictable shifts in the timing and length of growing seasons. **This can interrupt** the farmers' schedules, leading to a mismatch between the timing of crop growth and the popular demand for that crop. When the demand for the crop is higher than the supply of the crop, prices will rise. Economically disadvantaged groups will be the first to be affected by any such increases in price as they may no longer be able to afford the food necessary to meet their nutritional needs, potentially leading to varying levels of malnutrition - **or worse**.

5. On the Move: Global Shifts in Production

Climate change is not only disturbing growing seasons but also growing locations. Changing climate conditions alter the suitability of land for agriculture, leading to shifts in the geographical distribution of crops. In some areas, warming may actually benefit the types of crops that are typically planted there or allow farmers to shift to crops that are currently grown in warmer areas. **Conversely**, if the new temperature is too high for a crop, yields will decline. For example, average global

crop yields for maize (corn) may see a decrease of 24% by the end of the century, with declines already becoming apparent by 2030. Wheat, on the other hand, may see a rise in crop yields of about 17% because it grows best in areas that are not too hot and not too cold and the number of these is increasing. Any major shifts in the geographical distribution of food production will lead to disruptions in food supply chains. Global food-supply chains are interconnected and rely on long-distance transportation and trade. Supply chain problems in one part of the world can quickly affect food availability and affordability in distant regions. Again the first victims will be the poor, mostly likely to suffer malnutrition through this food insecurity.

6. Regional Food Production: Access and Inequality Issues

When food production moves away from a region, it can lead to decreased access to locally available foods. In other words, with less food being grown in an area, there is less food to be shared among the local people. This can **exacerbate** malnutrition among people without money to access food from distant regions. Moreover, for those who rely heavily on small-scale agriculture for their livelihoods, decreased agricultural productivity in their regions can lead to poverty and food insecurity. Perhaps surprisingly, a rise in food production in a particular region can also create problems. The presence of more actors in the agricultural sector of a region will likely cause increased competition for resources such as land and water. In such circumstances, the potential for social inequalities is heightened. If a powerful company enters an area that is currently mostly small-scale agriculture, it is likely that both land and water access will be reduced for the small-scale farmers. There is also no guarantee that local people will benefit from any increase in the local crop yield, as this may be intended for the global market.

(Word count: 1002)

PART 1: READING COMPREHENSION (35%)

Answers to the questions below can be found in **Input Text 1**.
All Part 1 answers MUST be entered on the MCQ Answer Sheet.

Reading for main ideas

Questions 1-4
For each of the **paragraphs 1-4**, choose the **best** heading from the choices below (**A-D**).

1. _____ 2. _____ 3. _____ 4. _____	A. The Difficulty of Planning B. Extreme Weather: One Cause, Two Different Impacts C. Defining a Complex Pair D. Common Causes of Climate Change

(4)

Reading for detail

5. According to **paragraph 5**, maize production may witness a decrease of 24% by 2030.

A. TRUE *if the statement agrees with the information*
B. FALSE *if the statement contradicts the information*
C. NOT GIVEN *if there is no information on this*

(1)

6. According to **paragraph 6**, powerful companies use their political influence to secure access to land and water when entering a new agricultural area.

A. TRUE *if the statement agrees with the information*
B. FALSE *if the statement contradicts the information*
C. NOT GIVEN *if there is no information on this*

(1)

Inferencing

For questions 7-8, choose the **best** option.

7. Based on the content of **paragraph 5**, what inference can be made about the impact of climate change on global food production?

A. Climate change has little effect on the geographical distribution of crops.
B. Climate change may lead to decreases or increases in crop yields depending on the crop type.
C. Climate change primarily affects crop yields in temperate climates.
D. Climate change is unlikely to disrupt food supply chains.

(2)

8. What inference can be made from the writer's use of '**or worse**' in the following sentence in **paragraph 4**?

> 'Economically vulnerable groups will be the first to be affected by any such spikes in price and may no longer be able to afford to buy the food necessary to meet their nutritional needs, potentially leading to malnutrition - **or worse**'.

A. They could suffer from extreme hunger.
B. They could lose access to nutrition-rich food.
C. They could suffer increased poverty.
D. They could face environmental challenges.

(2)

Vocabulary: guessing meaning from context

9. Choose the **best** synonym for the word **intensify** in **paragraph 3**:
A. heighten
B. reduce
C. affect
D. repeat

(1)

10. Choose the **best** synonym for the word **conversely** in **paragraph 5**:
A. similarly
B. additionally
C. consequently
D. contrastively

(1)

11. Choose the **best** synonym for the word **exacerbate** in **paragraph 6**:
A. make worse
B. make better
C. make smaller
D. make less severe

(1)

Cohesion: links across text

For questions 12-14, choose the **best** option.

12. What does **the phenomenon** in **paragraph 2** refer to?
A. climate change
B. GHGs
C. key driver
D. food security

(1)

13. What does **it** in '**it can lead**' in **paragraph 3** refer to?
    A. the impact of climate change
    B. the intensification of the water cycle
    C. where land is located
    D. changes in temperature

(1)

14. What does **this** in '**This can interrupt**' in **paragraph 4** refer to?
    A. global warming
    B. unpredictable weather patterns
    C. interruptions in farmers' schedules
    D. the mismatch between crop growth and demand

(1)

Paraphrasing: keeping the same meaning

15. The following sentence is underlined in **paragraph 5**:

'In some areas, warming may actually benefit the types of crops that are typically planted there or allow farmers to shift to crops that are currently grown in warmer areas.'

Choose the **best** paraphrase from the options A-D below. Only **one** option does **not** change the meaning in some way.

A. Rising temperatures could, in certain regions, potentially enhance conditions for crops commonly cultivated there, or enable farmers to change to growing crops suited to warmer climates.

B. Warming could provide some benefits to crop growth in certain areas, or farmers could switch to growing crops in warmer places.

C. Climate change will cause farmers to consider different crop options, either continuing with the same crop or switching to another depending on what they prefer.

D. There could be localized advantages to warming in specific agricultural zones, resulting in even higher crop yields, although the broader consequences are uncertain.

(2)

16. The following sentence is underlined in **paragraph 6**:

> 'The presence of more actors in the agricultural sector of a region will likely cause increased competition for resources such as land and water.'

Choose the **best** paraphrase from the options A-D below. Only **one** option does **not** change the meaning in some way.

A. An increase in the number of participants farming in one specific area is likely to raise demand for limited resources including land and water.

B. More agricultural activities in a region will probably result in the need for more land and water.

C. If more resources could be utilized, the competition for land and water will be less fierce.

D. An increase in resources such as land and water will probably lead to more people entering the agricultural sector of a region.

(2)

INPUT TEXT TWO

The Importance of Variety and Difference

Biodiversity describes the variety of plant and animal life existing in a particular ecosystem. Generally, higher levels of biodiversity lead to stronger, more stable ecosystems. Human-induced climate change is reducing biodiversity and thereby weakening the stability of ecosystems. Although the long-term consequences of this are difficult to predict, it is clear that the effects on agriculture specifically are likely to be severe.

Loss of biodiversity weakens agricultural systems by changing the balance in ecosystems that supports agricultural productivity. Having a diverse range of species can help to maintain functions essential for agriculture, including pollination and pest control. Many crops depend on pollinators such as bees, butterflies, and birds for reproduction. However, rising temperatures and deforestation mean that these pollinator populations have fewer suitable habitats (homes). They can be particularly vulnerable to intense drought. For example, in the Netherlands, the average number of butterflies has almost halved there since 1991. However, where ecosystems are changing the most rapidly – developing countries in tropical climates - there is very little data on how pollinator numbers are changing. They could be doing even worse than in developed countries. The decline in pollinators reduces the crops' ability to reproduce, such that yields will fall. While dependency on pollinators varies by crop type, in some cases the dependency is very large. For instance, without pollinators there would be a yield reduction of more than 90% in melons, pumpkins, cocoa beans and nuts. A drop in pollinators is therefore accompanied by a drop in the availability of certain foods and may contribute to food insecurity, especially in regions heavily reliant on pollinator-dependent crops. Furthermore, such crops are generally grown by small-scale farmers, so this could also cause a critical drop in income for some of the world's poorest people. For perspective, hundreds of millions of people worldwide are engaged in small-scale agriculture, much of it in developing countries.

Warmer temperatures change precipitation patterns, creating more favorable conditions for diseases and pests (destructive insects or other animals that attack crops). Most pests prefer warmer and wetter conditions. This becomes a particular problem when combined with biodiversity loss. More specifically, an imbalance in natural predator-prey relationships will likely result in more pests destroying crops. Without enough predators to kill them, pests may extend their range, feeding on crops, gaining in strength and number, and further threatening agricultural productivity. The situation is made even worse by modern agricultural practices, which often use monoculture farming instead of crop rotation – in other words, the same type of crop is planted year-after-year rather than using different crops every year. This practice not only reduces the range of nutrients in the soil and the micro-organisms required for biodiversity – it also makes the crop particularly vulnerable to pest and disease epidemics. This can result in substantial yield losses and economic hardships for farmers, which can translate into much higher food prices. As global populations rise, reductions in supply have potentially larger impacts.

Without enough biodiversity to control pest populations naturally, farmers may use artificial solutions such as pesticides. These contain chemicals that may kill the target animals but also kill non-target ones, including pollinators. In addition, repeated chemical use leads to water contamination and reduced soil quality. Heavy rains, more common with extreme weather events, may cause this polluted water to wash into rivers, lakes and seas, thus spreading the contamination more widely. Pesticide use also threatens human health: exposure to pesticides is linked to an increased risk of illnesses such as cancer and heart diseases. Despite all this, the trend is towards ever greater use of pesticides because the number of pests is increasing and the effectiveness of pesticides is falling. It seems that the more that pesticides are used, the more resistant pests are likely to become.

Biodiversity loss contributes to a decline in the nutritional quality of available food sources. Agricultural systems that prioritize a few high-yielding crop varieties often neglect traditional food crops rich in essential nutrients. As a result, diets become less diverse, leading to deficiencies in key vitamins, minerals, and micro-

nutrients necessary for human health. Biodiverse agricultural systems often include a variety of crops with different nutrients. For example, crops like quinoa and various leafy greens are rich sources of vitamins, minerals, and protein. However, as these traditional crops are gradually replaced by a small number of high-yielding crops, diets become less varied and contain a smaller range of nutrients. This can contribute to malnutrition and health problems, even in well-developed regions, where food quantity may not be a primary concern.

The fact that some crops may see their yields increase because of global warming may actually be seen as a positive development. The rising CO_2 levels stimulate some plants to grow more quickly and more abundantly. However, CO_2 can also reduce the concentrations of essential nutrients in some crops, such as wheat and rice, by promoting fast growth at a cost to nutritional quality (less protein, minerals and vitamins). This direct effect of rising CO_2 on the nutritional value of some crops represents a potential threat to human health.

(Word count: 847)

PART 2: ESSAY QUESTION (65%)

'Explain two impacts of climate change on food security.'

You **must** refer to **Input Texts 1** and **2**.
Write approximately 400 words in the Answer Booklet.

Ideas taken from the texts should be paraphrased.

Note: You are not required to paraphrase fixed expressions such as 'biodiversity' or 'greenhouse gases'.