AKADEMEIA
HIGH SCHOOL

Candidate's name	

English Language Entrance Test

Entry point: Year 12

EXEMPLAR

Time allowed: 1 hour 15 minutes

Instructions:

- Use black ink or ball-point pen.
- Fill in the box at the top of this page with your name.
- Answer all the questions in all Sections (Section A, B and C).
- Answer the questions in the spaces provided – there may be more space than you need.

Information

- The total mark for this paper is 60.
- The marks for each question are shown in brackets
- Quality of written communication, including vocabulary, spelling, punctuation and grammar, will be taken into account in your response to Section C.
- Dictionaries may not be used in this examination.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.
- You are reminded of the importance of clear English and careful presentation in your answers.

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SECTION A: READING COMPREHENSION

Firstly, please read the text. Then, answer ALL the questions in this section.

You should spend about 30 minutes on this section.

The Benefits of Cloud Seeding

Not since Charlemagne was crowned Holy Roman Emperor in 800 A.D. has the American West been so dry. A recent study in Nature Climate Change found the period 2000 to 2021 was the driest 22 years in more than a millennium, attributing a fifth of that anomaly to human-caused climate change. The megadrought has meant more fires, reduced agricultural productivity, and reduced hydropower generation. Desperate for water, several Western states like Colorado have expanded decades-old programs to increase precipitation[1] through cloud seeding, a method of weather modification that entails releasing silver iodide particles or other aerosols into clouds to stimulate rain or snowfall.

Cloud seeding operations have also expanded in water-stressed regions outside the U.S. The United Arab Emirates, which currently gets more than 40 percent of its water through desalination plants, has built a weather enhancement factory that can churn out 250 cloud seeding flares a week. China has long had a far more substantial weather modification infrastructure, with millions of dollars spent each year seeding clouds in the semi-arid north and west. In 2020, the Chinese government announced that the weather modification program would expand to include more than half of the country, with a grand vision of a "sky river" carrying water from the humid south to the drier north.

Some of the renewed attention on cloud seeding is driven by fresh evidence that it actually works — at least when seeding for snow. In 2020, a group led by researchers at the University of Colorado and the National Center for Atmospheric Research reported the results of a study conducted at a cloud seeding operation in Idaho. Called SNOWIE, the study used sophisticated radar and meteorological methods to demonstrate unambiguously that cloud seeding can increase snowfall.

Cloud seeding got its start because of a problem with planes. When pilots began to fly through clouds, ice sometimes **accreted** on the wings, impacting their ability to fly. During World War II American planes flying over the Himalayas often had to turn back after icing up. After the war, General Electric began studying how supercooled water in clouds — water that is below freezing temperature but still liquid — became ice. "They were creating the supercooled water clouds in this freezer, and they threw some dry ice in there," says Frank McDonough, a meteorologist at the Desert Research Institute. The dry ice caused the supercooled water to form ice crystals — snow.

Soon, General Electric scientists were running experiments in real clouds, first with dry ice, then with silver iodide, the crystals of which resemble ice. When silver iodide particles are released into a cloud, droplets of supercooled water form crystals around them, which fall to the ground as snow. Clouds can be seeded from rockets, planes, or from the ground by burning silver iodide in acetone, so the particles rise in smoke. Warm weather seeding for rain works somewhat differently. Instead of silver iodide, "giant aerosols" such as salt are released into clouds by planes, causing larger droplets to form among the trillions of supercooled droplets too small to fall, which can spark a chain reaction leading to rain.

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[1] Precipitation (n.) = rain, snow, sleet, or hail that falls to or condenses on the ground.

The potential for weather modification methods like cloud seeding continues to generate a lot of interest: increased rainfall could mean increased crop yields. However, some commenters opposed to cloud seeding have expressed concern that it represents a kind of hubris, that humans shouldn't "play God" or mess around with nature. Such arguments have been made since seeding became possible. However, it's worth pointing out, says McDonough, that seeding or not, "clouds aren't pristine things." In many cases, car exhaust and other industrial pollution has reduced the efficiency with which clouds precipitate by shrinking the size of cloud droplets. "Cloud seeding may be putting the clouds back to a more efficient state where they may have been prior to humans," he says.

[End of text][2]

[2] Source: Adapted from: https://e360.yale.edu/features/can-cloud-seeding-help-quench-the-thirst-of-the-u.s.-west

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1. Look at lines 1-7. Why was the period 2000-2021 the driest 22 years in more than a millennium?

_____

_____

[1 mark]

2. Look at lines 1-7 again. Using your own words as far as possible, explain **three** consequences of this period of drought.

_____

_____

_____

_____

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_____

[3 marks

3. Look at lines 1-7 again. Using your own words as far as possible, explain what cloud seeding is, **and** what it does.

_____

_____

_____

[2 marks]

4. Look at lines 9-15. Using your own words as far as possible, explain **two** strategies or plans that separate countries have implemented in response to water shortages**.**

_____

_____

_____

[2 marks]

5. Look at lines 17-21. What did SNOWIE find out through its research?

_____

_____

[1 mark]

6. Look at lines 23-29. What does the verb 'to accrete' ("accreted") mean? Choose the correct definition from the following list:

   a. To erode over a period of time

   b. To form by gradual accumulation

   c. To slide off something

   d. To grow rapidly

[1 mark]

7. Look at lines 23-29. Using your own words as far as possible, explain how cloud seeding started.

_____

_____

[1 mark]

8. Look at lines 25-33. Describe **two** aspects of the research conducted into cloud seeding by General Electric.

_____

_____

_____

[2 marks]

9. Look at lines 31-37. Explain the processes involved in cloud seeding **and also** warm weather seeding for rain. The number of marks available is an indicator of the number of points you should make.

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[4 Marks]

10. Look at lines 39-46. Why do some people oppose cloud seeding?

[1 mark]

11. Look at lines 39-46 again. Explain what has impacted clouds for the worse, **and also** why they might benefit from cloud seeding.

[2 marks]

[End of Section A]

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SECTION B: USE OF ENGLISH

Answer ALL the questions in this section.

You should spend about 15 minutes on this section.

Use the word given in capital letters to form a word that fits the gap:

EXAMPLE: The company "Gap Year Travel" offers a [**SELECT**] of student-friendly holidays.

ANSWER: SELECTION

1. I [UNDERSTOOD] what she wrote, and so didn't meet her at the right time.

ANSWER:

[1 mark]

2. Books are the most important [BEAR] of information.

ANSWER:

[1 mark]

3. Sally's [KIND] towards her new neighbours was truly overwhelming.

ANSWER:

[1 mark]

4. I would have [RING] if I hadn't lost my phone.

ANSWER:

[1 mark]

Complete this sentence with the correct article (a / an / the) or no article (-):

5. … considerable number of … books and manuscripts in … library will support …

wide variety of research.

[1 mark]

Complete the second sentence so that it has a similar meaning to the first, using the word given. Do not change the word given:

EXAMPLE: It wasn't Mark who you met in the shop.

HAVE

It … Mark who you met in the shop.

ANSWER: can't have been

6. The interviewer didn't really like the candidate.

IMPRESSION

The candidate didn't … the interviewer.

ANSWER:

[1 mark]

7. Wiktoria borrowed my pen yesterday.

LENT

I … Wiktoria yeterday.

ANSWER:

[1 mark]

8. Why did you give up your sports club?

MADE

What … give up your sports club?

ANSWER:

[1 mark]

9. Please email me more information.

GRATEFUL

I … you would email me more information.

ANSWER:

[1 mark]

10. It was a mistake to forget to study for the test.

SHOULD

We … to study for the test.

ANSWER:

[1 mark]

[End of Section B]

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SECTION C: WRITING

You should spend about 30 minutes on this section.

Comment on why you think it may or may not be important to protect, support or improve the environment **through the use of science and technology**.

In your response you should include:

- Reasons why you think it is/is not important to protect, support or improve the environment using these means.
- Referring to **at least two** specific environmental features/aspects known to you, comment on why it is/is not important to protect, support or improve them through the use of science and technology.
- Why the general public should/should not be engaged in the protection, support or improvement of the environment through the use of science and technology.

Your response will be marked for the accurate and appropriate use of vocabulary, spelling, punctuation and grammar.

[30 marks]

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[End of Section C]

[END OF PAPER]