Section 1

Running water

Does your house have a supply of water? What happens when you open the tap – does it hiss at you angrily or obediently provides you with the treasured liquid? If the latter is the case, then consider yourself lucky, because according to a recent United Nations report, there are over 2 billion people without access to drinking water - a figure that is nothing short of a humanitarian disaster. Is access to reliable water supply a fairly recent thing, then? Well, not at all.

The practice of storing water is almost as ancient as civilization itself. Archaeological findings indicate that the earliest examples of this took place around 6000 BC, or almost 8000 years ago, during the Neolithic period. People back then would dig makeshift wells — practically deep holes — and line their walls with material such as tree bark that would prevent water from escaping. The water could later be easily carried with buckets or pots. This saved a lot of time as opposed to going to the nearest lake or a river. One of the earliest known examples of a more sophisticated water delivery system originates from the ancient Indus Valley civilization. It was located in what is now modern-day Pakistan and India from around 3300 BCE to 1300 BCE. Archaeological evidence suggests that the Indus Valley cities had complex systems of wells, reservoirs and channels used to supply clean water to their populations.

A system of water storage and supply that was more similar to what we use today comes from ancient Rome. Roman aqueducts were a remarkable engineering achievement that allowed citizens of Rome to have a reliable supply of clean water fit for many purposes. The aqueduct system consisted of a network of channels, tunnels and bridges that transported water from distant sources into the city using natural gravitational forces. The system itself is one of the most impressive engineering achievements of the ancient world. The first Roman aqueducts were built in the 4th century BC and were constructed using a combination of stone, brick, and concrete. The recognizable shapes of Roman aqueduct bridges have rounded arches and massive supporting columns.

Over time, the design of Roman aqueducts improved, growing in both scale and complexity. Some of the most impressive examples were built during the reign of Emperor Augustus in the 1st century AD. One of the most famous Roman aqueducts is the Aqua Claudia, which was built in order to supply water to the city of Rome. Named after Emperor Claudius, this aqueduct was over 44 miles long, with most of its structure located under the earth surface and some sections as high as 110 feet above the ground. To successfully transport water over a distance that long, the aqueduct used above-ground arches, which were built to span valleys and ravines. At its peak, the Aqua Claudia was capable of delivering around 200,000 cubic meters of water per day. It was used for a variety of purposes, including public baths, fountains, and private homes. The aqueduct also played a role in the development of Roman agriculture, as it allowed farmers to irrigate their fields and grow crops year-round.

A good example of development outside of Rome is the Pont du Gard. An impressive display of Roman engineering, it is considered one of the greatest surviving structures of the Roman Empire. The aqueduct consists of a series of arches that span the Gardon River, with the highest arches standing over 160 feet tall. The Pont du Gard was built using innovative materials, including a concrete-like substance called pozzolana, which was used to create both the arches and the water channels. The construction of the aqueduct was a massive undertaking that involved thousands of workers and it is estimated that it took around 15 years to complete. The aqueduct itself was in use for around 200 years, providing water to the city of Nîmes and the surrounding areas. Over time, the aqueduct fell into disrepair. During the French Wars of Religion in the 16th century it sustained some serious

damage and since then could no longer be used. In the 18th century the aqueduct was partially renovated and became a popular tourist attraction. Today, the Pont du Gard is a UNESCO World Heritage Site and a sightseeing destination for history enthusiasts who come to marvel at its impressive scale and engineering ingenuity.

Access to clean water has been a fundamental requirement for human survival throughout history and a basic human right to be upheld. Water is the lifeblood of our planet, a precious resource that sustains all life forms. Yet, as we progress through the modern age, the problem of access to clean water embarrassingly remains one of the most pressing issues facing humanity. It is a challenge that has far-reaching consequences, from the spread of waterborne diseases to the perpetuation of poverty and economic disadvantage. No matter how advanced the pumps and hydraulic systems we have if they can't be put to good use. Overcoming these problems calls for collective effort, a commitment to invest in water infrastructure and to educate people about the importance of clean water and proper sanitation practices. Only so can we ensure that every person has access to this essential resource, and that we safeguard the future of our planet and all the life it sustains.

Questions 1-7
Do the following statements agree with the information given in Reading Passage 2?

TRUE if the statement agrees with the information
FALSE if the statement contradicts the information
NOT GIVEN if there is no information on this

1 The practice of stockpiling water is thousands of years old
2 Even most primitive liquid containers required certain modifications
3 Aqueduct water transportation principle largely relied on a natural phenomenon
4 Ancient Romans were the pioneers of water supply systems
5 Water transported by aqueducts was reserved for practical applications only
6 Aqueduct planners found a way to traverse difficult terrain
7 Pont du Gard is still used for its intended purpose

Questions 8-13
Complete the summary below using words from the box. Each word can only be used once.

As time went on, Roman structures became increasingly **8** _____. Cities grew in size, so the **9** _____ of water supply systems had to keep up. Newly-developed **10** _____ found their use in constructing aqueducts. Pont du Gard, a world-famous aqueduct that still stands to this day, is a living reminder of Roman engineers' **11** _____. Despite suffering greatly during one of the wars it was later **12** _____ to everybody's joy.

It is a well known fact that life is only **13** _____with water. Without it no biological form can survive for long, whether a man or an animal. Only through joint effort the issue of insufficient supply of fresh drinkable water can become a thing of the past.

Words for the gaps: expensive, materials, restored, scale, concrete, cities, size, amount, work, plan, ingenuity, complex, sustained, engineered, brought

Section 2

High in the sky: history of aviation

A In the vast tapestry of human achievement, the development of aviation and controlled flight holds a special place. It is a story of innovation and the relentless pursuit of the impossible. From the earliest attempts at flight to the cutting-edge technology of modern aircraft, the story of aviation is one of humanity's greatest achievements. The path from soaring balloons to supersonic jets was rocky, but exciting, to say the least. Fasten your seat belts and expect some turbulence on the way!

B Leaving aside the ancient Greek myth of Icarus and his wings made of feathers and wax, the first documented flights were made as early as 1783. On November 21, 1783, the Montgolfier brothers launched the first untethered hot air balloon, taking it to a height of 6,000 feet and travelling over 5 miles. This marked the beginning of of lighter-than-air aviation, when people gingerly began to master the newly emerging art. While such aircrafts were mostly at the mercy of the wind and couldn't be steered with precision, they were the pioneers of manned flights. Throughout the 19th century, further advancements were made in ballooning, and the first transatlantic balloon flight taking place in 1873.

C However, it was not until the Wright brothers' historic flight in 1903 that the era of powered flight truly began. Orville and Wilbur Wright were two brothers from Ohio who had been fascinated with flight since childhood. They began experimenting with gliders in the late 1890s, and finally on the chilly day of December 17, 1903 they achieved their dream of powered flight using their Wright Flyer. The plane flew for 12 seconds and covered a distance of 120 feet, but it was a monumental achievement that changed the course of history.

D Over the following years, aviation technology advanced rapidly, as aeroplanes were becoming faster, more reliable and efficient. World War I played a significant role in the progress in the domain of aviation, with planes used for reconnaissance and later for combat. By the end of the war, planes had become more manoeuverable, and air superiority established itself as an integral strategic component of any large-scale military conflict. World War II was no exception, further spurring advancements in the field, as countries on both sides of the Atlantic funnelled funds into the research and development of aviation. The most iconic aircraft of the war was the infamous B-17 Flying Fortress, which played a crucial role in the Allied bombing campaign against Germany. The war effort was also responsible for the first jet-powered aircraft, the German Messerschmitt Me 262, making its maiden flight in 1941.

E The interwar period gave impetus to commercial aviation, when companies like Boeing and Douglas started producing planes designed for passenger travel. In 1927, Charles Lindbergh made the first solo transatlantic flight, flying from New York to Paris in his plane, the Spirit of St Louis. Lindbergh's achievement captured the world's imagination and ushered in the era of affordable long-distance air travel. The 1930s brought further advancements in aviation technology such as the introduction of pressurized cabins and the first attempts at jet propulsion for civic purposes. In 1949, the first commercial jet aircraft, the British DH106 Comet, took off for the first time. Overall, the money that governments had invested in the industry during the periods of war was the main reason for the breakthroughs that would have otherwise taken decades to make.

F After the war, aviation technology continued to advance rapidly, with the introduction of new technologies like radar, electronic navigation, and jet engines. In 1947, Chuck Yeager became the first person to break the sound barrier, flying the Bell X-1 at a speed of Mach 1.06. This marked a new epoch in aviation, making planes faster and more capable than ever before. The 1950s saw the introduction of the first commercial jet airliners like the British

de Havilland Comet and the American Boeing 707. These planes revolutionized air travel, offering an unprecedented combination of comfort and affordability. The era of mass air travel had begun. The 1970s and 1980s saw the development of new technologies like fly-by-wire controls, GPS navigation, and composite materials. In 1988, the first fully electronic airliner, the Airbus A320, entered service.

G Fast forward to today and the two most prominent civic airliners: the Airbus A320 and Boeing 737. Let have a closer look at both. The Boeing 737 has a more traditional design: engines on the wings and a T-shaped tail. The Airbus A320, on the other hand, has a more modern approach, placing engines under the wings and a swept-back tail. This design difference has important implications for the planes' performance, mostly benefitting the A320 with a more even aerodynamic profile, which translated into better fuel efficiency. Another difference between the two models is their cockpit layout. The Boeing has retained a more reserved cockpit setup rich in analog gauges and dials, while the Airbus has more modern controls with electronic displays and a fly-by-wire interface. These differences reflect the two philosophies of the manufacturers. Boeing has traditionally favoured a more hands-on approach to flying, while Airbus has emphasized automation and computer-controlled systems.

H When it comes to performance, there are some notable differences between the two planes. The 737 has a slightly longer range than the A320 - 3,500 and 3,300 nautical miles respectively. This might stem from the slightly higher top speed of the latter with 540 knots as opposed to 530 knots for the 737. Another performance difference worth noting is their fuel efficiency. The Airbus A320 boasts 15% lower jet fuel consumption, which could be due to its more modern design and use of advanced materials.

I So, what does the future hold for modern aviation? New alloys are discovered yearly, the progress in electronics development is at its peak, planes grow increasingly automated. Rumours of new hybrid engines and advanced fuels promise increased range and lower environmental impact. Others wager that we might see AI-piloted aircraft in our lifetime. The fact that takes little guessing is that planes have carved a large niche for themselves and are here to stay.

Questions 14-21
Reading Passage 2 has eight paragraphs labelled **A-I**.
Choose the most suitable headings for paragraphs **B-I** from the list of headings below.

Write the appropriate numbers (**I-XIII**) in boxes 1-8 on your answer sheet.
One of the headings has been done for you as an example.
Note: There are more headings than paragraphs, so you will not use all of them.

Example: Paragraph A — Answer VII

List of Headings
I Shift from analog to digital
II The Flying Greek
III Forged in fire
IV Computers take over
V Brothers in arms
VI Numbers matter
VII A long road
VIII What's on the horizon?
IX Taking off

X Head to head
XI David and Goliath
XII A date to remember
XIII Not for fighting alone

14 Paragraph B
15 Paragraph C
16 Paragraph D
17 Paragraph E
18 Paragraph F
19 Paragraph G
20 Paragraph H
21 Paragraph I

Questions 22-27
In boxes 22-27 on your answer sheet, write

TRUE if the statement agrees with the information
FALSE if the statement contradicts the information
NOT GIVEN if it is impossible to say what the writer thinks about this

22 No attempts at flying were made before 18th century
23 Wright brothers are credited with having made the first flight
24 World conflicts facilitated further development in the domain of aviation
25 Second half of the twentieth century saw planes getting more electronic equipment
26 Airbus A320 requires less human input from pilots as opposed to Boeing 737
27 We are likely to see unmanned passenger planes in the future

Section 3

There is no such thing as bad weather

A Weather, just like faith, is a cruel mistress. From the gentle patter of raindrops on a rooftop to the ferocious roar of a thunderstorm, Earth's atmosphere is a symphony of elemental forces. To unravel the mysteries of the skies above and predict the caprice of the weather has been one of man's biggest dreams. And to nobody's surprise, humanity has been getting increasingly successful at exactly that. Like a master painter, modern meteorology blends science and art to create a portrait of the future, a canvas of colours and forms that captures the essence of the heavens above. But how do they do it?

B Since the dawn of time, humanity has been making attempts to predict the weather using a variety of methods, ranging from observing the behaviour of animals to studying the movements of the stars. While some of these methods were based on superstition or folklore, others relied on careful observation and scientific principles. There were those that used consistent patterns. An example is the saying "Red sky at night, sailor's delight. Red sky in the morning, sailor's warning" comes to mind. This saying suggests that a red sky at sunset indicates good weather the following day, while a red sky at sunrise is a harbinger of poor weather conditions. More wild superstitions went like "Rain on your wedding day is good luck." This belief sees precipitation on that special day as a sign of fertility

and abundance. This, of course, wouldn't always be true. Therefore, let us take a look at a more science-based approach to weather forecasting.

C Weather prediction is a complex process that involves gathering and analyzing information from a number of sources. It relies on analyzing the present situation just as much as looking at historical patterns and using extrapolation to make long-term predictions. One of the key sources of weather data is satellites, which supply information on cloud cover, temperature and precipitation across the globe — something that is hard to come by otherwise. Satellites also provide data on ocean temperatures and currents, which can in turn help predict the formation of hurricanes and other tropical storms. Of course, meteorologists are not limited to satellite feed alone. The more conventional approach, predominantly used in pre-space era, is weather stations located on the ground that measure variables like temperature, air pressure and wind strength.

D A notable tool in the tricky art of weather prediction is the weather balloon. These balloons are typically made of latex or similar synthetic material and are filled with a lighter-than-air gas such as helium to provide the lift needed to carry it and its cargo aloft. Once the balloon is launched, it ascends through the atmosphere, carrying with it an array of sensors and instruments. These typically include a radiosonde — a small box that contains sensors for data collection. As the balloon rises, it expands due to the decreasing atmospheric pressure. Eventually, the balloon reaches a point where the atmospheric pressure is equal to the pressure inside, stopping its rise. At this point, the balloon bursts and the radiosonde, along with other hardware, is released to fall back to Earth on a parachute. During its descent, the radiosonde sends data back to a ground station via radio waves. This data is invaluable when creating a vertical profile of the atmosphere. It is later collected and analyzed by meteorologists, who use computer models to create weather forecasts. These models take into account factors such as the rotation of the Earth, the influence of the sun and the movement of air masses.

E Such computer models are an integral part of modern meteorology. They use complex mathematical equations that crunch the given data to accurately simulate the behaviour of the atmosphere and make informed predictions. Probably the most widely used model is the Global Forecast System (GFS) maintained by the National Oceanic and Atmospheric Administration (NOAA) in the United States. Other notable models include those made by European Centre for Medium-Range Weather Forecasts (ECMWF) and the Canadian Meteorological Centre (CMC). Once a model has generated a forecast, meteorologists review the data and make adjustments based on their own expertise and experience. They may also consult with other experts, such as oceanographers, to refine their predictions. Therefore, even highly-computerised, it still remains an art that is highly reliant on professional human input.

F One of the biggest challenges in weather forecasting is predicting the behaviour of severe weather events like hurricanes and tornadoes. Similar to most other weather occurrences, these are influenced by a variety of factors like temperature, precipitation and wind speed. To help with processing all these variables, meteorologists use radar and satellite data to track the movement of storms. In addition to anticipating such conditions, meteorologists also issue warnings and advisories when (and what kind of) severe weather is expected. This can include tornado notifications, hurricane and flash flood warnings. The latter are events of sudden flooding in a normally dry area, caused by an abnormally strong rainfall or the failure of certain infrastructure objects such as dams. The risk factor of such events is that they can reach dangerous levels of water within hours or even minutes.

G Looking back at the sheer amount of development weather forecasting has undergone over the years, you can't help but wonder if we could really do without it. Today's world hinges on accurately predicted weather: air and sea travel, construction and development, even planning a casual walk doesn't go without looking up what the rest of

the day might be like. So all we are left with is to hope that advances in technology and accumulated collective understanding of the atmosphere will reflect in the growing accuracy of these predictions.

Questions 28-34
Reading Passage 3 has seven paragraphs, **A-G**.
Which paragraph contains the following information?
Write the correct letter **A-G** for questions **28-34** .
NB You may use any letter more than once

28 far-reaching implications of weather forecasting
29 a misconception held by many people
30 an example of collaboration with another field of science
31 how time-sensitive certain information can be
32 a celestial body that affects the weather
33 an overly artistic comparison
34 a combination of high and low technologies complementing each other

Questions 35-40
Complete the summary
Choose **NO MORE THAN TWO WORDS** for each gap.

Paying close attention to the way **35** _____ behave has been one of the earliest methods of telling the weather. Of course, to make the predictions more consistent, people had to devise more complex approaches. Using **36** _____ - that is, looking back at previous years to find a systematic trend - is one of the older methods that is still in use to this day. A more technologically advanced idea is to use balloons filled with helium. Said balloon carries a **37** _____ whose sole purpose is to gather data on its way down to the ground. This would allow meteorologists to have a more comprehensive array of data.

Advancements in aerospace industry enable weatherpeople to reach new levels of precision in predicting the weather. Images from **38** _____ provide invaluable information that practically completes the picture. One last touch is utilising **39** _____ that are part of a purpose-made computer models. These process multiple factors and ensure even higher accuracy of forecasting. Finally, people rely on meteorologists when it comes to timely **40** _____ about extreme weather phenomena such as floods and hurricanes.

Answer Keys

1 TRUE. First two sentences of paragraph 2 support this statement, stating that this practice is as old as civilization and later providing more factual numbers.
2 TRUE. Paragraph 2, sentence 3 goes into details about making the first water containers. The technique of lining its walls with barks is described - the modification mentioned in the task statement.
3 TRUE. Last sentence of paragraph 3 states that the aqueducts made use of gravitational forces to transport water —the natural phenomenon in question.
4 FALSE. To answer this one correctly, we go back to paragraph 2, where more ancient civilizations are given credit for having used water transportation system. This means that they predated Roman aqueducts, even if they might have been more simple from an engineering standpoint.
5 FALSE. Paragraph 4 mentions that the water was used for fountains, among other things. Fountains by design have questionably practical application.
6 TRUE. Paragraph 4 has information about columns that were used to go over valleys and ravines; the latter are particularly low areas of land.
7 NOT GIVEN. Second part of paragraph 2 mentions that the aqueduct felt in disrepair and 'since then' could no longer be used - implying that it is still true. Later, the test goes about partial renovation, which hints at the fact that it is no longer used for transporting water.
8 complex. 'Complexity' from paragraph 4 is the changed word that fits into the gap. 'Engineered' doesn't fit as the phrase itself makes no sense; it would need to go like 'increasingly well-engineered' to work.
9 scale. The growing cities demanded a larger scale (size) of water supply systems to meet the demand.
10 materials. One of the materials is 'pozzolana' from paragraph 5. 'Cities' can't be used as they can't be used to make aqueducts.
11 ingenuity. Engineers' original approach to such monumental tasks is best described by this word. Other words that you could consider: work (too plain and does not convey the idea of achievement), plan (it could be chosen if they hadn't finished it, but they did).
12 restored. The restoration process is mentioned at the end of paragraph 5.
13 sustained. To sustain means to support and make sure that it keeps existing. 'Brought' shouldn't be used as it has a narrower scope and does not fully reflect the idea of sustenance—the continued existence of life.

14 IX - Taking off. Taking off is the procedure of accelerating in order to go airborne (fly) for an aircraft. Here it is used figuratively to show the very first attempts at flight. 'The flying Greek' is a trap; even though Icarus is mentioned at the beginning, the paragraph is not focused on his persona, he is only used as a preface here.
15 XII - A date to remember. The last two sentences of the paragraph talk about the historic moment of controlled flight and mention the specific date, December 12th. 'Brothers in arms' is a misleading heading, as the phrase means soldiers who fight side by side; therefore, it shouldn't be understood literally.
16 III - Forged in fire. This paragraph goes on about the impact of war on the industry of aviation. The ongoing conflicts prompted considerable progress thanks to the increased money influx. 'Fire' here is used symbolically to mean 'conflict'. 'Brothers in arms' should not be chosen; it would mostly refer to soldiers, whereas the focus of both the paragraph and the text in general is on aircrafts and their development.
17 XIII - Not for fighting alone. Contrastingly with the previous paragraph, this one lists more peaceful applications of aviation. The idea is reinforced in the last paragraph, with direct reference to war effort funding the progress in the field.
18 I - Shift from analog to digital. A number of inventions in the field of air travel are mentioned in the

paragraph, most of them relating to various electronic improvements.
19 X - Head to head. 'Shift from analog to digital' shouldn't be used, as this heading implies progress and evolution, while the Boeing makes a conscious choice of keeping the analog approach. This means that they believe that digital controls are not necessarily better.
20 VI - Numbers matter. A comparison between the two aircraft makers shows the performance figures for both. 'David and Goliath' is incorrect, as the comparison would imply that one greatly surpasses the other. Instead, the difference in range and performance is noticeable but not groundbreaking.
21 VIII - What's on the horizon? 'Computers take over' is not optimal for this paragraph; the main idea is the general direction of progress in aviation. While some attention in this paragraph is given to AI and how it might become increasingly used in piloting, it is not the only or dominant topic.
22 NOT GIVEN. Information from paragraph B refers to documented flights, i.e., those that have been proven through historical records. Therefore, neither a positive nor a negative answer can be given here.
23 FALSE. The opposite is true, according to paragraph B. In paragraph 2, Montgolfier brothers are mentioned to have achieved that - and they have been credited with that as well. It is important to understand what 'to be credited' means. It has nothing to do with money, but instead the idea is that your achievement gets recognition.
24 TRUE. 'To facilitate' means to help something, make something easier, or go smoother. That is exactly what happened, according to paragraph D: both wars forced world governments to invest heavily in the aviation industry. This helped it progress at an accelerated pace.
25 TRUE. This is correct and confirmed by the information in paragraph F. There, among other things, the invention and implementation of GPS and fly-by-wire technology are mentioned.
26 TRUE. The last sentence of paragraph G highlights the differences between the two mentioned models, with the latter (Airbus A320) relying more on automation and computer assistance.
27 TRUE. Last paragraph says that people 'wager' that we are likely to see AI-controlled planes in the future.

28 G. 'Far reaching implications' might sound overwhelming and confusing. In short, it means that something affects the situation in more than one way, and some of the effects can have greater influence. The last paragraph of this extract talks about how weather forecasting has found its way into many different spheres of our lives and how it affects them.
29 B. Rain on the wedding day is a superstition that the misconception from the task refers to. Remember that a misconception means a wrongly held belief.
30 E. Oceanography is an example of another scientific field that meteorology has to work with to further improve their accuracy in weather prediction.
31 F. Last sentence of the paragraph highlights how critical it can be to notify people about such dramatic weather phenomena in time.
32 D. A celestial body is a space-related term that refers to a planet, a satellite or a star. In this particular paragraph, two celestial bodies are mentioned: our planet and the sun. The focus is on the star, as it affects the weather situation to a greater extent.
33 A. The comparison from the task and the art of weather prediction is that of a master painter. 'Overly' means 'too much' in this context.
34 D. The high and low technology mentioned is, respectively, the intricate electronic sensors and the air balloons they are installed on.
35 animals. 'Since the dawn of time' is a phrase that refers to the earliest methods of telling the weather and helps us find the right word in paragraph B.
36 historical patterns. It is crucial to use both words, as simply using one word 'patterns' does not fully convey the

idea.
37 radiosonde. 'On its way down to the ground' is the key phrase here that helps pick 'radiosonde' from paragraph D, which refers to the descent phase of the process. Note the indefinite 'a' before the gap that means the noun is going to be singular - therefore, answers like 'instruments', 'sensors' or 'hardware' do not fit.
38 satellites. Note the plural form; there is no article before the gap.
39 mathematical equations. 'Crunching the data' from paragraph E is synonymous with processing multiple factors from the task.
40 warning/notifications. 'Timely' is an adjective here referring to time-sensitive warnings in the case of tornadoes or flash floods.

Vocabulary

The vocabulary below is meant to help you with the more difficult words. If the word isn't on the list then you are either supposed to know it or it is too specific to be worth learning and you don't have to know it to answer the question. Symbols in brackets mean part of speech (see bottom of the list). Sentences in italics give examples of usage for some more complex words and phrases.

And remember — you are not given a vocabulary list (or a dictionary) at your real exam.

Section 1

Treasured (adj) - highly valuable and sought after. *The treasured memories of childhood are immortalised in pictures of family photo album.*
Makeshift (adj) - created quickly for a temporary purpose and usually of low quality. *We made makeshift pillows by filling our bags with some hay.*
Originate (v) - to come from, to be a source of something. *Most meditation practices originate from the Far East.*
Reign (n) - period of when a ruler is in power. *A dictator's reign is usually marked by restricted human rights as well as the prohibition of free speech.*
Span (v) - to go over something, to cover distances. *This highway spans hundreds of miles and makes it much easier for commuters from the nearby towns to go to work.*
Ravine (n) - a deep, narrow valley that often gets flooded during spring in areas with distinct seasonal change.
Irrigate (v) - to artificially provide water to plants. *It is especially important to irrigate your garden during heatwaves, as it might not get enough water from natural sources such as precipitation.*
Crops (n) - plants that are grown to be later used for food. *Potatoes and tomatoes are the typical crops that come to mind.*
Undertaking (n) - a task or a process, especially a grand one that takes a lot of time and effort. *Starting your own business is a serious undertaking, and you should think twice before doing it.*
Disrepair (n) - if something is in disrepair, it means that it is in poor condition due to neglect or other factors. *The flat was in total disrepair; the floors had to be resurfaced, and the wallpaper was peeling off.*
Marvel at smth (v) - to look at something in awe, surprise or disbelief because of its size, greatness or other notable qualities.
Uphold (v) - (here) to give something that is rightfully yours. *Sometimes the United Nations has to step in when it sees that human rights are not being upheld in the region.*
Sustain (v) - to ensure the continued existence of something. *Without a steady supply of water, it is impossible to sustain life here.*

Waterborne (adj) - (here) transmitted through water.
Perpetuation (n) - continuation of something undesirable. *If we don't stop people from getting increasingly immersed in their phones, it will lead to the perpetuation of ignorance, illiteracy, and social isolation.*
Safeguard (v) - (here) to protect and ensure continued existence.

Section 2

Tapestry (n) - used figuratively here, it means a large collection of different things.
Relentless (adj) - enthusiastic and tireless, almost aggressively so. *Science is relentless in its pursuit for clean, affordable, and sustainable energy.*
Cutting-edge (adj) - most recent and advanced, very modern. *Cutting-edge battery technology allows electric vehicles to run for hundreds of miles without having to recharge.*
Untethered (adj) - not tied or connected to something.
Gingerly (adv) - slowly and carefully. *Gingerly, I tiptoed to my room not to wake anybody up in the middle of the night.*
At the mercy of something—affected by something greatly or completely. *We have done our part, and now the outcome is at the mercy of faith.*
Reconnaissance (n) - the art of achieving information about the enemy in a conflict, such as the number and location of forces; scouting.
Funnel smth into smth - to direct something, such as money, time or other resource, to a particular place or purpose. *Our research and development department is currently funnelling staff effort into the testing of the new superconductor.*
Infamous (adj) - well-known, especially for something bad.
Maiden flight - the first flight of an aircraft. 'Maiden voyage' is also used, but mostly for ships.
Impetus (n) - if something is given impetus, its progress is accelerated through external forces.
Usher in (v) - to signal the beginning of something. *The development and wide adoption of smartphones ushered in an era of mobile gaming.*
Civic (adj) - relating to peaceful needs and purposes, the opposite of warfare.
Breakthrough (n) - a sudden and considerable progress in something.
Unprecedented (adj) - something that hadn't happened previously. *Microsoft success was unprecedented; it was the only company in history that, at one point, had almost completely monopolised the software market.*
Translate into (v) - (here) to be a result of something else. *His notable academic performance at school translated to a lucrative internship with an international company and eventually full-time employment with them.*
Retain (v) - to keep, to continue having something. *Retaining our ancestors' traditions is an important task if we want to maintain cultural integrity.*
Gauges, dials - special equipment that has visual indications of various parameters such as temperature, speed, altitude, and others.
Hands-on (adj) - more involved and actively doing it rather than having theoretical knowledge of it, used positively. *Our boss is a big fan of hands-on management; he's always in the office, actively helping his employees and steering them in the right direction.*
Emphasise (v) - to focus on something, to highlight something as important. *During Lucie's years at university, her teacher emphasised that she should pay more attention to her people skills.*
Wager (v) - to say that something is very likely to happen, to the point where you are willing to bet money on it. *I wager Marie is going to take Jack to the prom.*

Section 3

Mistress (n) - a female lover, especially one when the man is married or engaged. 'A cruel mistress' is used figuratively to mean something that can be either good or bad in a strong way.
Patter (n) - a series of quick tapping sounds, like raindrops on a thin metal roof.
Unravel (v) - to solve a mystery part by part. *To unravel this crime, the detective had to travel all over the country, questioning witnesses.*
Canvas (n) - (here) a wide range or selection of something. *The old car exhibition offered a rich canvas of automobiles from different time periods.*
Dawn (n) - the time of day when the sun rises. Used literally here, the phrase 'since the dawn of times' means the beginning of humanity.
Superstition (n) - beliefs that are not based on science or practical experience but on legends and other supernatural things.
Harbinger (n) - a thing or a person that indicates that something, especially something bad, is about to happen.
Precipitation (n) - weather phenomena such as rain or snow. *It is sunny for now, but expect some heavy precipitation later this week.*
Abundance (n) - if something is in abundance, then there is more than enough of it. *The abundance of books in the library really made me want to read as much as I could at university.*
Extrapolation (n) - the practice of predicting the trend using information from the past and basing your prediction on it. *If we extrapolate the trend of spending we have now, our company will go broke within the next three years.*
Come by (phr v) - to come across, to find, to discover.
Feed (n) - information provided by some sort of sensor or other source. *The radio feed is bad because of all the electronic interference in the area.*
Conventional (adj) - widely used, traditional. *Your conventional methods of research are less likely to work in the increasingly computerised environment of today.*
Aloft (adj) - up, into the air. *We cut the rope, and the balloon went aloft.*
Array (n) - (here) a wide choice or selection of something. *The array of goods on supermarket shelves today is enough to make anyone go insane—the choice is truly astounding.*
Crunch (v) - (here, about data or numbers) analyse, process.
Refine (v) - to improve the quality of something. *To refine the results presented by the computer, we manually go through them and eliminate the ones that do not fit the pattern.*
Input (n) - (here) participation or involvement. *We will be requiring professional input to make the data more trustworthy.*
Anticipating (n) - expecting something to happen.
Dam (n) - an artificial structure that blocks a body of water from moving down the stream. It is often used to forward it elsewhere or for hydroelectricity generation.
Hinge on (v) - to be dependent on something. *The success of the race often hinges on weather conditions.*