

1-6: For these questions, choose the best word or expression to fill the space.

1. **Birds found dead along power lines are often ---- to have died from electrocution, especially if their bodies show burns or singeing.**
 - A) curtailed
 - B) tackled
 - C) assumed
 - D) detested
 - E) suppressed

2. **Though black holes are infamous for their ---- gravity that can swallow stars, planets and even other black holes, there is no way that a black hole could eat the universe, or even an entire galaxy.**
 - A) immense
 - B) competent
 - C) eternal
 - D) fierce
 - E) peculiar

3. **While there is evidence that classroom phone usage can be a ----, it can also promote engagement and learning if managed properly by teachers.**
 - A) magnitude
 - B) precision
 - C) negligence
 - D) scrutiny
 - E) distraction

4. **Despite the growth in awareness of ADHD over the past couple of decades, many people with the condition, ---- children from poor neighbourhoods, go undiagnosed and face severe learning problems.**
 - A) outstandingly
 - B) particularly
 - C) reluctantly
 - D) deliberately
 - E) accurately

5. **Any high school biology textbook will inevitably mention the famous Cambrian ----, which was a huge blast about 540 million to 520 million years ago during which many animal groups first came into being and diversified.**
 - A) penetration
 - B) tradition
 - C) distribution
 - D) explosion
 - E) improvement

6. **People have been retreating underground to ---- challenging climates for thousands of years, from the human ancestors in a South African cave two million years ago, to the Neanderthals during an ice age.**
 - A) draw on
 - B) cope with
 - C) go without
 - D) turn down
 - E) account for

7-16: For these questions, choose the best word(s) or expression(s) to fill the space(s).

7. **Historical documents suggest Alexander the Great's body ---- in the city of Memphis while a tomb was built for him in Alexandria; however, no one knows exactly where that iconic tomb ---- at present.**
 - A) was being held / was located
 - B) had been held / will be located
 - C) has been held / located
 - D) was held / is located
 - E) is held / has been located

8. **Sinkholes ---- when the rock beneath the surface, such as limestone, is dissolved by the groundwater within it naturally, and recently, some sinkholes ---- to contain their own ecosystems.**
 - A) might form / would be found
 - B) can form / have been found
 - C) must form / were found
 - D) had to form / are found
 - E) should form / had been found

9. **Megalodon sharks terrorised the oceans for up to 20 million years, before ---- out about 3.5 million years ago, and this period was in fact too long ago for humanity ---- them.**

- A) died / encountering
B) having died / having encountered
C) to have died / to have encountered
D) to die / to be encountered
E) dying / to encounter

10. **Without rapid and sustained reductions ---- greenhouse gas emissions, the Earth is currently ---- course to reach temperatures of roughly 3°C above preindustrial levels by the end of the century, and possibly quite a bit higher.**

- A) of / for
B) off / through
C) in / on
D) by / over
E) from / to

11. **The ability ---- our current technology to solve global problems is often said to be exaggerated, but when it comes ---- saving the world from asteroid strikes, lines of code may prove to be our savior.**

- A) to / for
B) among / on
C) with / from
D) beyond / in
E) of / to

12. **---- our population has increased, so has the amount of wild seafood we eat, and today, it makes up a significant portion of the diets of three billion people worldwide.**

- A) Unless
B) As
C) As if
D) Though
E) If

13. **Even years after it has disappeared, measles can have a profound impact on a population's health ---- measles virus deletes immune memories, rendering sufferers defenseless against all other viruses.**

- A) unless
B) so that
C) whereas
D) because
E) even though

14. **A person with an addiction uses a substance, or engages in a behavior because the rewarding effects provide a compelling incentive to repeat the activity ---- it has detrimental consequences.**

- A) provided that
B) since
C) although
D) just as
E) unless

15. **While rising temperatures continue to break records, it is important to remember that extreme heat affects ---- our physical health ---- our mental health, leading to losses in economy and life satisfaction.**

- A) not only / but also
B) so / as
C) neither / nor
D) so / that
E) either / or

16. **Though research specifically into hair loss is sparse, the hormonal changes are believed to contribute to changes in hair growth ---- in hair texture.**

- A) as well as
B) in order for
C) as opposed to
D) in spite of
E) on behalf of

17-21: For these questions, choose the best word or expression to fill the spaces in the passage.

Human rights due diligence is a process by which companies are meant to map out, understand and address all potential human rights abuses that occur **(17)** ---- their operations. The term "due diligence" **(18)** ---- from the common business practice of financial due diligence, wherein financial risks are investigated before any large investment. So **(19)** ---- businesses evaluate financial risks, human rights advocates want companies to put similar effort into investigating and assessing the risk that an activity might violate someone's human rights. The EU law would mandate that all large companies that operate in the bloc conduct human rights due diligence among their suppliers (for example, making sure child or forced labor wasn't involved) but also on how their products are used by consumers – such as when a piece of technology is used to surveil citizens. The law would cover most human rights, **(20)** ---- labor rights and environmental rights, past or present. In practice, that would mean companies would have to map any harmful impacts that have occurred or could occur and take action to remedy or **(21)** ---- these harmful effects.

17.

- | | |
|---------------|-----------|
| A) throughout | B) behind |
| C) towards | D) below |
| E) onto | |

18.

- | | |
|----------------------|-----------------------|
| A) had been borrowed | B) will be borrowed |
| C) is borrowed | D) was being borrowed |
| E) is being borrowed | |

19.

- | | |
|------------|----------|
| A) whereas | B) while |
| C) before | D) when |
| E) just as | |

20.

- | | |
|---------------|--------------------|
| A) in view of | B) such as |
| C) despite | D) notwithstanding |
| E) owing to | |

21.

- | | |
|----------------|-------------|
| A) prevent | B) evacuate |
| C) enhance | D) quarrel |
| E) deteriorate | |

22-26: For these questions, choose the best word or expression to fill the spaces in the passage.

Dry conditions **(22)** ---- to become more common across central North America and the U.S. Southwest in decades to come as the planet heats up from climate change. **(23)** ----, it is no surprise given that periods of drought have been common throughout American history. In 1994, Scott Stine, a professor of geography at California State University East Bay, discovered evidence of two medieval droughts that affected what is now California. Stine studied tree rings and determined that the first drought lasted 200 years before A.D. 1112, while the second **(24)** ---- for around 140 years before 1350. A series of megadroughts, from around 800 to 1400, also devastated the American Southwest, which scientists think was caused by a combination of factors including a rise in the sun's energy that was absorbed by Earth, a warming of the North Atlantic Ocean, **(25)** ---- harsh and recurring La Niña events. These droughts likely played a part **(26)** ---- a number of civilizations' collapse.

22.

- | | |
|------------------------|------------------|
| A) would be expected | B) were expected |
| C) were being expected | D) are expected |
| E) have been expected | |

23.

- | | |
|------------|---------------|
| A) Hence | B) Eventually |
| C) However | D) Otherwise |
| E) Thus | |

24.

- | | |
|--------------|---------------|
| A) acquired | B) delivered |
| C) satisfied | D) criticized |
| E) persisted | |

25.

- | | |
|-------------------|------------|
| A) as opposed to | B) akin to |
| C) in addition to | D) unlike |
| E) until | |

26.

- | | |
|-------|--------|
| A) on | B) in |
| C) of | D) for |
| E) at | |

27-36: For these questions, choose the best option to complete the given sentence.

27. Since more than two-thirds of the greenhouse gas emissions driving climate change originated in cities in 2020, ----.

- A) many UK cities have been reluctant to committing to achieving net zero ahead of the government target of 2050
- B) mayors and city councils have joined national politicians in setting targets for reducing emissions within their jurisdictions
- C) drastically reducing urban emissions will require reforms in sectors ranging from transport to electricity generation and home heating
- D) cities still do not want to undertake the responsibility of setting a net zero target to prevent greenhouse gas emissions
- E) cities' ability to dictate the scale of the transition to net zero will be determined by the balance of power between national and regional policymakers

28. When a person is admitted to hospital for any reason, a serious illness or a surgery, ----.

- A) the optimal expectation by their relatives is death or permanent bed-ridden illness
- B) hospital stays are always difficult for the patient and their relatives
- C) any operation planned by medical staff should be determined with attention to the tiniest detail
- D) it is expected they will spend the duration of their stay resting in bed while they recover
- E) the idea that we should rest in bed while in hospital has long been a misconception

29. Though storms that cause floods and wreak havoc in cities were once known as rare phenomena, or even 100-year events, ----.

- A) they are happening a lot more frequently due to climate change
- B) the significance of these disasters is not fully understood by ordinary people
- C) the North-eastern US would see a 52% rise in extreme precipitation by the end of this century
- C) cutting global emissions is crucial to avoid the worst impacts of climate change
- E) research has shown that urban planning can help to mitigate many of these impacts

30. Automation, driven by AI-powered systems, is revolutionizing industries by streamlining processes, increasing efficiency, and reducing costs, ----.

- A) when it is imperative for stakeholders to engage in informed and open discussions about its potential impacts
- B) as international collaboration is required to establish ethical standards, privacy guidelines, and liability frameworks for AI technologies
- C) because the pursuit of General AI, or Artificial General Intelligence (AGI), remains an ambitious goal for many experts
- D) whereas the notion of human-machine collaboration gains prominence in certain sectors including the IT networks
- E) though it also raises concerns about job displacement, by which many workers would lose their jobs

31. Last year, NASA crashed a spacecraft into the asteroid Dimorphos, ----.

- A) so asteroids have never been a real threat for our planet, even during its early formation phases billions of years ago
- B) and thus, there are now 37 "rogue" rocks, removed from the asteroid due to the impact and they are currently rocketing through space at 13,000 mph
- C) just as experts believe that deflection strategies must have had unintended consequences that left smaller rocks free to crash on Earth
- D) if the stones that are separated from Dimorphos come close to creating the impact of an atomic bomb upon their crash on Earth
- E) whereas other stones may have changed their direction off a possible collision course with Earth and bumped onto the surface of the Moon

32. While the majority of employees remain at their jobs for years with an average of four years, ----.

- A) layoffs are less widespread and companies follow through on promises to their workers
- B) some workers have decided not to push back against these conditions
- C) the number of workers who quit their jobs after less than a year has begun rising
- D) workers hardly feel temporary and expendable, and they see no need to commit to a new employer
- E) some of the workers still hold power in the labour market

33. Although wildfires have always been part of the life-cycle of Mediterranean ecosystems, ----.

- A) with more intense fires of late, we have witnessed a sharp rise in their severity and frequency last year
- B) the homes and lives devastated by the recent flames will take time to recover according to some officials
- C) these ecosystems are not designed to burn as it is claimed by scientists and wildfires are not a natural occurrence
- D) the Mediterranean, and other regions around the world with similar climates, are considered biodiversity hotspots
- E) problems come with human encroachment into nature such as pathways, roads, fences, lines cut into the wilderness

34. The enthusiasm and excitement surrounding the Women's World Cup shows that women's football is in a healthier state than ever, ----.

- A) as many would argue there is a need for female coaches at the top levels of women's football to act as an inspiration for young, aspiring female coaches
- B) given that women coaches in elite sport face higher expected standards but have lower pay than male coaches
- C) while more girls and women are now watching and playing football, and more are refereeing and coaching
- D) though only 12 of the 32 countries that have been competing in the Women's World Cup are coached by women
- E) whereas we now have a generation of players who are full-time professionals, just like their male counterparts

35. ----, her Egyptian cousin was a kind-hearted, protective being who guarded kings and country.

- A) As depictions of sphinxes appear in different eras of ancient Egypt and Greece
- B) While the Sphinx has spent 4,500 years watching the centuries pass
- C) Since archaeologists had to resort to detective work trying to solve the mystery of who built the Sphinx
- D) Although the Sphinx and the structures around it were abandoned and fell into ruin
- E) While a sphinx was a frightening monster with a woman's head and a lion's body in ancient Greece

36. Despite the grandeur and demands of his imperial role in addition to his affluence and immense military power, ----.

- A) Marcus Aurelius maintained an unwavering commitment to virtue, humility and introspection
- B) the followers of Marcus Aurelius were unable to cope with the challenges with wisdom and fortitude
- C) Marcus Aurelius' military success lay in his embodiment of philosophy in action
- D) Marcus Aurelius will not be remembered as the philosopher king
- E) his compilation of personal reflections and philosophical musings set Marcus Aurelius apart from other emperors

37-42: For these questions, choose the most accurate Turkish translation of the sentences in English, and the most accurate English translation of the sentences in Turkish.

37. It is often thought that if someone is depressed, they will feel sad or low most of the time, but what many don't realise is that these aren't the only symptoms of depression.

- A) Birisi depresyonda ise çoğu zaman üzgün veya moralsiz hissedecekleri düşünülür ancak pek çok insanın fark etmediği şey, bunların depresyonun tek semptomları olmayabileceğidir.
- B) Genellikle birisi depresyonda ise çoğu zaman üzgün veya moralsiz hissedecekleri düşünülse de pek çok insan bunların depresyonun tek belirtileri olmadığını fark etmez.
- C) Genellikle birisi depresyonda ise, çoğu zaman üzgün veya moralsiz hissedecekleri düşünülse de pek çok insanın fark etmediği şey, bunların depresyonun tek belirtileri olmadığıdır.
- D) Genellikle birisi depresyonda ise çoğu zaman üzgün veya moralsiz hissedecekleri düşünülür ancak pek çok insanın fark etmediği şey, bunların depresyonun tek belirtileri olmadığıdır.
- E) Genellikle birisi depresyonda ise çoğu zaman üzgün veya moralsiz hissedeceklerini düşünürüz ancak çoğumuz, bunların depresyonun tek belirtileri olmadığını fark etmez.

38. Although inflation is sustained by consumers, businesses and governments spending in excess of the supply of goods and services, central banks raise interest rates to reduce demand by discouraging borrowing and spending.

- A) Enflasyon; tüketicilerin, işletmelerin ve hükümetlerin mal ve hizmet arzının üzerinde harcama yapmaya devam etmesiyle sürdürülse de merkez bankaları ödünç alma ve harcamayı caydırarak talebi azaltmak için faiz oranlarını artırır.
- B) Enflasyon; tüketicilerin, işletmelerin ve hükümetlerin mal ve hizmet arzının üzerinde harcama yapmaya devam etmesiyle sürdürülür; buna karşın merkez bankaları, ödünç alma ve harcamayı caydırarak talebi azaltmak için faiz oranlarını artırır.
- C) Enflasyonun tüketicilerin, işletmelerin ve hükümetlerin mal ve hizmet arzının üzerinde harcama yapmaya devam etmesiyle sürdürüldüğü söylene de merkez bankaları ödünç alma ve harcamayı caydırarak talebi azaltmak için faiz oranlarını artırarak dengeyi sağlar.
- D) Enflasyonun sürdürülmesi, tüketicilerin, işletmelerin ve hükümetlerin mal ve hizmet arzının üzerinde harcama yapmaya devam etmesiyle gerçekleşir ancak merkez bankaları, ödünç alma ve harcamayı caydırarak talebi azaltmak için faiz oranlarını artırır.
- E) Enflasyonun sürdürülmesi için tüketicilerin, işletmelerin ve hükümetlerin mal ve hizmet arzının üzerinde harcama yapmaya devam etmesi gerekse de merkez bankalarının yaptığı şey, ödünç alma ve harcamayı caydırarak talebi azaltmak için faiz oranlarını artırmaktır.

39. Though solar farms are now a striking feature of the British landscape, we are still largely in the dark about how solar farms impact biodiversity in the country.

- A) İngiltere'deki güneş çiftliklerinin biyoçeşitliliği nasıl etkiledikleri konusunda hala büyük ölçüde bilgi eksikliğimiz olsa da onlar, çoktan ülkenin manzarasının çarpıcı bir özelliği haline gelmiştir.
- B) Güneş çiftlikleri, şimdiden İngiliz manzarasının çarpıcı bir özelliği haline gelmişse de ülkedeki güneş çiftliklerinin biyoçeşitliliği nasıl etkiledikleri konusunda hala büyük ölçüde bilgi eksikliğimiz bulunmaktadır.
- C) Güneş çiftlikleri, İngiliz manzarasının çarpıcı bir özelliği olabilir ancak ülkedeki güneş çiftliklerinin biyoçeşitlilik üzerinde nasıl etkileri olduğu konusunda hala büyük ölçüde bilgi eksikliğimiz bulunmaktadır.
- D) Güneş çiftlikleri artık İngiliz manzarasının çarpıcı bir özelliği olsa da ülkedeki güneş çiftliklerinin biyoçeşitliliği nasıl etkiledikleri konusunda hala büyük ölçüde bilgi eksikliğimiz bulunmaktadır.
- E) Güneş çiftlikleri, İngiliz manzarasının çarpıcı bir özelliği olsa da ülkedeki güneş çiftliklerinin biyoçeşitlilik üzerinde nasıl etkileri olduğu konusunda hala büyük ölçüde bilgi eksikliği bulunmaktadır.

40. Arabalar, kameralardan ve mobil telefon bağlantılarından eğlence sistemlerine kadar artık daha önce hiç olmadığı kadar çok elektronik sistem içeriyor ancak bu sistemlerden bazıları araçlarımızı hırsızlığa ve kötü niyetli saldırılara karşı savunmasız hale de getirebilir.

- A) Though cars now have more electronic systems than ever before, ranging from cameras and mobile phone connections to entertainment systems, some of these systems could also render our vehicles susceptible to theft and malicious attacks.
- B) While cars currently boast an unprecedented array of electronic systems, encompassing cameras, mobile phone connections, and entertainment systems, certain components within these systems could potentially expose our vehicles to the risk of theft and malicious attacks.
- C) What cars already contain is more electronic systems than ever, from cameras and mobile phone connections to entertainment systems, but some of these systems might also make our vehicles prone to theft and malicious attack.
- D) It is a fact that cars now have more electronic systems than ever before, ranging from cameras and mobile phone connections to entertainment systems; still, these systems might also make our vehicles prone to theft and malicious attack.
- E) Cars now contain more electronic systems than ever, from cameras and mobile phone connections to entertainment systems; however, some of these systems might also make our vehicles prone to theft and malicious attack.

41. Her psikoloji öğrencisinin öğrendiği bir dizi klasik deney ve teori bulunmaktadır, ancak daha güncel araştırmalar bu bulguları sorgulamıştır, bu nedenle günümüzde psikologlar insan doğasını yeniden değerlendirmektedirler.

- A) Numerous traditional experiments and theories are covered in the curriculum of every psychology student, yet recent research has cast doubt on these conclusions, prompting psychologists of today to reassess the fundamental aspects of human nature.
- B) There are a number of classic experiments and theories that every psychology student learns about, but more recent research has questioned these findings, so psychologists today are reevaluating human nature.
- C) A number of classic experiments and theories, familiar to every psychology student, exist; however, recent research has cast doubt on these conclusions, leading contemporary psychologists to reevaluate the essence of human nature.
- D) Though there are a number of classic experiments and theories that every psychology student learns about, recent research has questioned these findings, which means psychologists today are reevaluating human nature.
- E) While there exist several classic experiments and theories integral to psychology students' education, recent research has raised doubts regarding these findings, prompting contemporary psychologists to reassess the concept of human nature.

42. Ülke, ulusal parklardaki olanakları iyileştirdiği ve salgın sonrası birkaç tanınmış çevre oteli açtığı için son birkaç yılda birçok Kazak, ülkenin çeşitli kırsal bölgelerini giderek daha fazla keşfetmekte.

- A) In recent years, a growing number of Kazakh people have been exploring the rural areas of their country, which is driven by improved amenities in national parks and the establishment of prominent eco-friendly hotels following the pandemic.
- B) Over the past few years, a growing number of Kazakhs have been exploring their country's varied rural areas more frequently, and it results from the country's enhancements in national park facilities and the establishment of several prominent eco-friendly hotels since the onset of the pandemic.
- C) In the last few years, many Kazakhs have been increasingly discovering the nation's diverse rural areas because the country has improved facilities at national parks and opened several high-profile eco hotels following the pandemic.
- D) Over the last few years, Kazakhs have been increasingly discovering the diverse rural areas of the country, as the nation has improved facilities at national parks and opened several eco hotels since the pandemic.
- E) Kazakhstan has improved facilities at national parks and opened several high-profile eco hotels since the pandemic, so many Kazakhs have been increasingly discovering the nation's diverse rural areas in recent years.

43-46: Answer these questions according to the passage below.

Beijing, or the Chinese government, is to relax its rules on internal migration, making it easier for people to settle in small cities in an attempt to boost its ailing economy and spur growth. The ministry of public security announced plans to lower the bar for obtaining an urban hukou, or household registration. Beijing wants local governments to cancel hukou restrictions in cities with fewer than 3 million people, and relax the restrictions for cities with up to 5 million people. Cities with populations of more than 5 million will also be encouraged to relax their hukou quotas, allowing more people to obtain the highly prized urban registration documents. The measures are an attempt to encourage rural migrants to settle permanently in the cities and contribute more to the urban economy. About 292 million people – one-third of the total working population – are rural migrants working in China's expanding cities. Without urban hukou, they have to pay more for social services and are often barred from buying property in the city. As well as creating a two-tier system of citizenship, the hukou system deters migrants from spending and settling in cities, which economists say has sandbagged China's growth. Since the 1990s, hukou policies have been decentralised, with local governments allowed to set their own rules about registering new citizens. Chengdu, for example, allows graduates to apply for a hukou while they are looking for a job, as a means of attracting young talent. Last year, Shanghai relaxed its rules so that any graduates from the world's top 50 universities could apply for a Shanghai hukou, without having to make any social security contributions in advance.

43. Which of the following is true about Beijing's new plan?

- A) It urges cities with a population of 5 million and over to cancel hukou restrictions.
- B) It is done to increase social security contributions in rural areas.
- C) It dates back to times when China was a country with fewer urban areas.
- D) It aims to raise the contribution of people from the rural parts upon their permanent migration to cities.
- E) People from rural areas are reluctant to abide by it on a large scale.

44. Which of the following can be inferred from the text about urban hukou?

- A) It has been found to be detrimental for the growth of Chinese economy.
- B) Its implementation has always been done using a central control.
- C) It has affected the lives of more than 292 million people so far.
- D) The way it is implemented is the same all around China.
- E) It aims to encourage rural migrants to settle permanently in the cities.

45. According to the passage, the examples of Chengdu and Shanghai show that ----.

- A) Chinese government dictates a single practice for hukou in all cities
- B) both these cities are over the population count of 5 million people
- C) the practice of hukou in different cities has been different for a long time
- D) these two cities registered new citizens long before Beijing did
- E) these cities have relaxed the rules of hukou to allure young talents

46. What is the purpose of this passage?

- A) To criticize Beijing for not lifting the ban on city registration sooner
- B) To compare the different practices of hukou in different Chinese cities
- C) To inform the reader about a new practice regarding internal migration within China
- D) To discuss the advantages and disadvantages of the hukou system in China
- E) To explain in detail why the Chinese economy has lost its momentum

47-50: Answer these questions according to the passage below.

A fleet of UFOs, a bizarre alignment of meteors, a drone show: These are just a few of the things SpaceX's Starlink satellites have been mistaken for of late. These satellites bring broadband internet to some of the planet's most remote reaches. They are usually seen in low-earth orbit (around 186 miles from ground) on their way up to their final orbit at 342 miles high. As they rise, they grow dimmer and spread out until they're mostly out of sight of the naked eye, which can take up to several weeks. Astronomers call these massive arrays of satellites "mega constellations." In recent months, these satellites are being launched more frequently, often with over 50 satellites at a time, by Elon Musk's commercial space company. Sightings of Starlink mega constellations are also becoming more common, says David J. Helfand, a professor of Astronomy at Columbia University. The satellites are making it much more difficult for astronomers to do their jobs, he says. "When a satellite goes through the field of view of a telescope, it's extremely bright," Helfand says. "The objects we're trying to study – distant galaxies and stars – are 20 million times fainter than satellites. So when one of these streaks goes across the image, it completely obliterates the image." At least 6 percent of the 2021 images from the Hubble Space Telescope were "compromised or completely ruined" by satellite interference by Starlink satellites, he says. "That's when there were only 1,500 Starlink satellites... Now there are three times that amount." And many more are on the way.

47. Which of the following is false about Starlink satellites?

- A) They look very bright in the night sky when they are on their way to their final orbit.
- B) They make it difficult for astronomers to do their jobs.
- C) They were designed to bring internet to the remote corners of the world.
- D) Their brightness makes it easy to observe distant galaxies.
- E) They totally ruined certain images from the Hubble Space Telescope.

48. Which of the following is not among the things SpaceX's Starlink satellites are called?

- A) Starlink satellite train
- B) A fleet of UFOs
- C) A bizarre alignment of meteors
- D) A drone show
- E) Mega constellations

49. Which of the following can replace the underlined verb 'obliterates' in the passage?

- A) defines
- B) curbs
- C) destroys
- D) implements
- E) circulates

50. We learn from the passage that ----.

- A) governments need to take action against Starlink satellites to prevent light pollution
- B) Starlink satellites form a brighter light in the sky than that of the Hubble Space Telescope
- C) there will be more Starlink satellites in the skies in the future
- D) SpaceX must be making a lot of money out of Starlink enterprise
- E) distant galaxies and stars are the only objects astronomers are observing as part of their job

51-54: Answer these questions according to the passage below.

The word "pumice" comes from the Latin *pumex*, meaning "foam." Pumice is so light it can float on the water's surface. Glass-like pumice forms when superheated molten rock erupts from a volcano and quickly cools. Even when pulverized, pumice doesn't lose its sharp edges. The ancients found pumice stone endlessly useful. It was such a popular commodity that it travelled as far as volcano-less Egypt, where archaeologists have uncovered it on ancient worktables. The Egyptians found its abrasiveness useful as a polisher and exfoliant. They mixed pumice with vinegar and used it as toothpaste, despite the fact that it eventually wore away tooth enamel. Greeks and Romans used pumice to remove unwanted body hair. Its popularity continued into the 12th century, when it was featured in the *Trotula*, a widely read collection of texts on women's health. Pumice is low density, making it a key ingredient in concrete. Mix pumice with lime and you get *pozzolana*, the smooth and durable plaster that ancient Romans used to construct the dome of the Pantheon. Today, the addition of sandpapery pumice to industrial washing machines gives jeans that coveted stonewashed look. Ground pumice is an ingredient in low-density paint, is incorporated in rubber and plastics for its antiskid properties, and is beauticians' choice to scrub off dead skin during a pedicure. After several millennia that humans have used pumice, its possibilities remain seemingly endless.

51. Which of the following is true about the use of pumice by ancient Egyptians?

- A) It was used as a material in construction.
- B) They used it to remove unwanted body hair.
- C) It was used as an additive to low-density paint.
- D) They used it as a polisher and exfoliant.
- E) It was a key ingredient in the early practice of pedicure.

52. Which of the following can be inferred about the dome of the Pantheon from the passage?

- A) Romans used pumice in its construction thanks to the knowledge passed down by ancient Egyptians.
- B) We possibly wouldn't be able to see it if it hadn't been constructed with pumice and lime.
- C) It was featured in the *Trotula*, a widely read collection of texts.
- D) It derived its inspiration from the structures built by ancient Greeks.
- E) It was able to be built due to the abundance of glass-like pumice in Rome.

53. Which of the following is the most popular use of pumice throughout history according to the passage?

- A) Its use in cosmetics and personal hygiene
- B) Its use in construction
- C) Its use in textile industry
- D) Its use in rubber and plastics
- E) Its use in low-density paint

54. Which could be the best title for this passage?

- A) Pumice and Its Use by the Ancient Egyptians
- B) How and When Pumice was First Used in History
- C) Why Pumice is So Important for Us Today
- D) Pumice and the Way It was Transformed by Romans
- E) A Brief History and Various Uses of Pumice

55-58: Answer these questions according to the passage below.

The patent on the Tuberculosis drug bedaquiline has expired recently. But while its manufacturer could use secondary patents to extend its exclusive right to sell the drug, it instead struck an innovative deal that will lower the drug's price and expand access to it for millions of poorer people around the globe – a major public-health win against the world's deadliest infectious disease. By the numbers Tuberculosis (TB) infects approximately 10 million people per year, killing some 1.5 million. Over the decades, some strains of the bacteria that cause TB have evolved and can no longer be treated with the most common TB medicines. Roughly half a million people become infected with multidrug-resistant TB each year, requiring treatment with bedaquiline. The drug reduces the risk of death by approximately 10 percentage points, according to a study in BMC Infectious Diseases. Yet because bedaquiline prices are so high, many low- and middle- income governments buy fewer courses of bedaquiline and use older, more toxic, and less effective drugs to treat TB. The manufacturer initially planned to enforce a secondary patent on a slightly altered version of the drug in more than 30 lower- and middle-income countries including South Africa, Pakistan, and Indonesia, but they decided to do something good for people.

55. Which of the following cannot be said about bedaquiline?

- A) Its manufacturer gave up its patent for poorer countries.
- B) Currently, millions of poor people are not in a position to buy it.
- C) It belongs to a line of old, toxic tuberculosis medicine.
- D) The manufacturer originally intended to implement a secondary patent on a somewhat altered version.
- E) Its use in more than 30 lower- and middle-income countries depends on a secondary patent.

56. It is clear from the passage that the decision by the manufacturer of bedaquiline ----.

- A) has long been due as far as people like the author of the passage are concerned
- B) was made with the intention of making ever more profit from the drug
- C) has already saved the lives of millions of people in more than 30 lower- and middle-income countries
- D) was made because the drug couldn't do anything against multidrug-resistant TB anymore
- E) will have a positive effect on the survival rates of people who get infected with multidrug-resistant TB

57. Which of the following can be inferred from the passage about bedaquiline?

- A) Its patent was given for free to South Africa, Pakistan, and Indonesia.
- B) It can be afforded more easily by higher-income countries.
- C) It was a lucrative venture for its manufacturer at first, but they now lose money because of it.
- D) The manufacturer is planning to sell a slightly altered version of the drug.
- E) It gained enormous popularity after a report by BMC Infectious Diseases was released.

58. Which of the following is true about the author?

- A) The author is angry that the manufacturer of bedaquiline didn't give up its patent for good.
- B) The author is critical of more than 30 lower- and middle-income countries for not buying the secondary patent for bedaquiline.
- C) The author appears mildly confused by the fact that a big manufacturer gave up its patent rights.
- D) The author approves of the decision by the manufacturer of bedaquiline to give up its patent for greater good.
- E) The author is disappointed that some 1.5 million have to die because of tuberculosis every year.

59-62: Answer these questions according to the passage below.

According to the U.S. Bureau of Labor Statistics, nearly 40 workers die every year from heat, most in outdoor jobs like farming, construction, and package delivery. What's more, climate change is supercharging the problem. At least a third of the U.S. population was warned against extreme heat at some point this summer, and next summer is likely to be worse, as the warming El Niño weather cycle intensifies through the winter. While the past eight years have been the hottest in history, they are also likely to be the coolest of the next century. On a planet 2°C warmer – our current end-of-century trajectory – 33 times as many people would be subjected to dangerously high levels of extreme or humid heat. But no matter how hot it gets, garbage still must be collected, packages delivered, houses roofed, roads constructed, and produce plucked for grocery-store shelves. A 2020 study found that the average U.S. farmworker already endures dangerous levels of heat for 21 days of the year. By 2050 that number could jump to 39, and by the end of the century to 62. In most states, you can be fined for leaving a dog outside without water or shade. But outside of California, Oregon, Washington, and Colorado, agricultural workers don't have the same protections. Nor do roofers, road- construction crews, delivery drivers, or garbage collectors, or almost any other outdoor workers. With the risk to some 50 million Americans comes an estimated \$100 billion in lost productivity, increased workers' compensation premiums, lawsuits, and health care costs.

59. Which of the following can be said about the next century?

- A) It will probably get warmer than it is now as the time passes.
- B) It is difficult to say as making projections with today's stats wouldn't be accurate.
- C) People will find a way to get accustomed to the weather then.
- D) It will be at least 5°C warmer than it is at the moment.
- E) The warming El Niño weather cycle will finally come to an end.

60. According to the passage, outdoor daily jobs in a city ----.

- A) will also be done in the next century, but they will be 33 times harder
- B) will have to be done in as many as 62 days by the end of the century
- C) will need more manpower to be accomplished due to warming weather
- D) were once performed in a climate where there were no extreme heat cases
- E) will have to be done however warm the weather gets

61. Which of the following can be inferred from the passage?

- A) Leaving pets outside without water or shade is forbidden in all the states in the US.
- B) Only a handful of states in the US offer protection for outdoor workers.
- C) The number of workers doing outdoor jobs will eventually diminish as the warming continues.
- D) An outdoor worker might earn more if they sue the government for unsuitable working conditions.
- E) Colorado was the first state to offer protection for workers doing outdoor jobs in the heat.

62. What is the main purpose of the author?

- A) To criticise some American states for putting the importance of pets over that of workers doing outdoor jobs
- B) To exemplify what will happen if the world becomes only 2°C warmer
- C) To inform the reader about the risks of doing outdoor jobs in a warming climate, with a focus on future projections
- D) To discuss whether global warming will have a devastating effect on the future of people doing outdoor jobs
- E) To prove that it will be impossible to do routine outdoor jobs at the end of the century

63-67: For these questions, choose the best option to complete the dialogue.

63. Dwight:

— **This article claims anger has its positive sides.**

Howard:

— ----

Dwight:

— **I see why you object. You are right, of course, but the writer claims it also makes people more powerful.**

Howard:

— **I doubt it, but I am intrigued. How so?**

Dwight:

— **It can be channeled into a positive force; consider that anger fueled many social and political movements, from women's suffrage to Black Lives Matter.**

- A) There are ways to relieve anger, such as venting or blowing off steam.
- B) Getting away from the scene or argument that causes anger is the best one, I guess?
- C) Given that it is one of the most primitive emotions humans experience, I beg to disagree.
- D) I think one of them is the awareness that most of us don't know how to deal with it.
- E) Anger might have its good sides, but I am the last person to have any scientific information about it.

64. Chloe:

— **Isn't it great that geological hydrogen is now gaining recognition as a zero-carbon energy source?**

Lisa:

— **I wouldn't be so enthusiastic about the subject if I were you.**

Chloe:

— **You're such an enthusiasm killer; what is the problem with this one?**

Lisa:

— ----

Chloe:

— **I see where you are coming from, but it is too early to be worried about future emissions.**

- A) While hydrogen isn't a greenhouse gas, it alters atmospheric chemistry in a way that it increases the lifespan of greenhouse gases.
- B) As it is so early in development, we don't have much information about how abundant and cheap it will be to produce.
- C) A few companies are already producing so-called blue hydrogen, which is derived from the emissions released by other energy-producing methods.
- D) Burning hydrogen produces only water, so it is widely considered to be a green alternative to natural gas.
- E) Geological hydrogen contains varying amounts of methane and nitrogen, meaning it must be purified, which requires energy so it can lead to emissions.

65. Jay:

- **Here's a fun fact for you: According to a study, people pass swine flu to pigs more than the other way round!**

Zane:

- **You must be kidding me! Isn't it a condition that originated in pigs?**

Jay:

— ----

Zane:

- **No way! How so?**

Jay:

- **It is because not all infections lead to ill health or are reported.**

- A) You're right, but there is more: the true number may even be higher than the one they came up with in the study.
- B) Yes. It is caused by a type of Influenza A, known as H1N1, of which a variant called pdm09 led to an outbreak in people in 2009.
- C) The most probable reason for the transmission might have to do with the warming climate that affects farming practices.
- D) The transparency between animals and humans in terms of disease transmission has been on the medical agenda for decades.
- E) It could be said that medical scientists are doing their best to determine the reason for such an unusual incident.

66. Scarlet:

- **It has come to my attention that several countries are planning on missions to the Moon with the aim of mining.**

Jeannie:

— ----

Scarlet:

- **It was clearly determined by the UN Outer Space Treaty in 1966 that no nation can claim sovereignty over the Moon, or other celestial bodies.**

Jeannie:

- **So, how can they plan these missions?**

Scarlet:

- **The treaty didn't say anything about private companies, so these countries are using that hole in the treaty to their advantage.**

- A) I thought they were trying to prepare for a permanent human base on our satellite.
- B) Isn't it forbidden for any country to conduct any mining business on the Moon?
- C) So, is this the reason for the efforts of SpaceX to send unmanned vehicles to space?
- D) It is a lost cause as far as I am concerned because it is way too expensive to be feasible.
- E) It is a pity our country has fallen way behind the space agenda.

67. Professor:

- I see that you have made use of the recent AI tools to write this assignment.

Student:

- ----

Professor:

- Well, you may believe whatever you want but this paper doesn't bear even the slightest similarity to your previous ones – neither in language, nor in output. Thus, you have failed the course and I will let the Ethical Board know about this violation.

Student:

- Then, I have no choice but to take legal action to protect my rights.
- A) I believe it has to do with the software we are encouraged to use to help with language errors.
- B) It is my first time, sir. So, please do not take any harsh action.
- C) A lot of my friends are doing the same, but am I going to be the only to be penalized?
- D) Well, I won't deny that I have been using grammar-correction software for a while.
- E) With all due respect, sir but I don't think you have any proof as to the authenticity of the article.

68-71: For these questions, choose the best rephrased form of the given sentence

68. Even a weak El Niño on top of human-driven global warming could have sweeping consequences for the climate, ranging from coral bleaching to flooding, and cost the global economy trillions of dollars.

- A) Especially a mild El Niño combined with global warming could lead to various climate impacts, spanning from coral bleaching to floods, and resulting in trillions of dollars in economic losses.
- B) Even if a mild El Niño combined with human-induced global warming could lead to extensive climate impacts that will include coral bleaching and severe flooding, this may not result in trillions of dollars in economic losses.
- C) Even the possibility of a weak El Niño on top of human-induced global warming is concerning because it may have far-reaching climate impacts, including coral bleaching and flooding and this will bring about trillions of dollars of economic losses.
- D) Even a mild El Niño combined with human-induced global warming could lead to far-reaching climate impacts, including coral bleaching and flooding, with potential economic costs in the trillions of dollars for the world economy.
- E) If a mild El Niño were to combine with human-induced global warming, it could lead to some climate changes, including coral bleaching and flooding, and result in trillions of dollars in economic losses.

69. People may have more awareness during resuscitation than we thought, which could explain why those who survive sometimes report near-death experiences.

- A) Individuals might possess a higher level of consciousness during resuscitation than previously assumed, potentially offering an explanation for why some survivors occasionally recount near-death experiences.
- B) It may well be possible that some people have more awareness during resuscitation than we previously assumed, and this could shed light on the near-death experiences.
- C) There is a distinct possibility that certain individuals possess a level of awareness while undergoing resuscitation than previously thought, which could provide insights into the near-death experiences reported by a lot of survivors.
- D) It is quite plausible that certain individuals possess greater consciousness while being resuscitated than our prior assumptions suggested, and this could provide insights into the near-death experiences reported by some of the survivors.
- E) It may well be that certain individuals possess heightened awareness during resuscitation, which could provide insights into the near-death encounters reported by survivors.

70. On average, plant-based milks have just 2 grams of protein per 240 milliliters, with a lot of variation between products, while cow's milk has 8 grams per 240 milliliters, regardless of whether it is skimmed, semi-skimmed or full fat.

- A) Normally, plant-based milks contain approximately 2 grams of protein per 240 milliliters, with variability among different products; in contrast, cow's milk, regardless of its fat content (skimmed, semi-skimmed, or full-fat), contains almost 8 grams of protein per 240 milliliters.
- B) Typically, plant-based milks have an average protein content of about 2 grams per 240 milliliters, which can vary among different products, yet cow's milk, regardless of its fat content (skimmed, semi-skimmed, or full-fat), contains nearly 8 grams of protein per 240 milliliters.
- C) Typically, plant-based milks contain only 2 grams of protein per 240 milliliters, displaying considerable variability between different products, but cow's milk provides 8 grams of protein per 240 milliliters, regardless of its fat content – skimmed, semi-skimmed, or full fat.
- D) Naturally, plant-based milks have an average protein content of around 2 grams per 240 milliliters, with variations between products; however, cow's milk, whether skimmed, semi-skimmed, or full-fat, consistently provides about 8 grams of protein per 240 milliliters.
- E) Whereas plant-based milks have an average protein content of around 2 grams per 240 milliliters, with variations between products, cow's milk, whether skimmed, semi-skimmed, or full-fat, consistently provides about 8 grams of protein per 240 milliliters.

71. The pathway from school to university became the definition of success for many students, so recent attempts to divert young people towards vocational routes have met with limited success.

- A) The route from school to university came to symbolize success for most students, which has caused numerous attempts to guide youth toward vocational paths to get only inadequate achievements.
- B) For the majority of students, the path from school to university has become synonymous with achievement, leading to numerous efforts to steer young individuals towards vocational avenues resulting in unsatisfactory outcomes.
- C) The path from school to university has become synonymous with success for the majority of students, leading various efforts to steer young individuals towards vocational avenues to yield unsatisfactory outcomes.
- D) For certain students, the journey from school to university became the epitome of success, resulting in recent endeavours to steer youth towards vocational pathways encountering minimal effectiveness.
- E) For numerous students, the route from school to university came to symbolize achievement, making recent endeavours to steer young individuals toward vocational paths yield modest outcomes only.

72-75: For these questions, choose the best option to complete the missing part of the passage.

72. MANIAC, a computer designed at Princeton after the second world war, could perform a blistering 10,000 calculations a second. ---- They were the two most consequential applications the machine's creators could imagine. Interestingly, it would have taken MANIAC the entire 13.8bn-year history of the universe to perform as many calculations as today's fastest computer can carry out in an hour. Though its abilities were limited, it was a big step in the right direction.

- A) But their work on the weather at forecasting outfits around the world finds practical application almost everywhere.
- B) This extraordinary power of that time was applied to two main problems: modelling thermonuclear explosions and the Earth's weather.
- C) Thus, deciding to leave an umbrella at home on a forecaster's advice is no longer necessarily a triumph of hope over experience.
- D) On the other hand, the application of machine learning and other forms of artificial intelligence will improve things further.
- E) Now, machine-learning systems trained simply on past weather data can more or less match their forecasts, at least in some respects.

73. Seclusion from the world and its neighbours like Chine has long been a guiding principle for the rulers of North Korea, a secretive hereditary dictatorship. Kim Jong Un, the current despot, took isolation to a new level during the covid- 19 pandemic. ---- Thus, travel to North Korea, already a niche pursuit at best, ceased completely. Foreign diplomats, aid workers and businesspeople also left the country in masses.

- A) The border with China was slammed shut, with the construction of a new border fence and shoot-to-kill orders against anyone attempting to cross.
- B) However, in recent weeks, speculation has grown that seclusion may at last be easing in this godforsaken country.
- C) Three and a half years after the pandemic began, there are quite a few credible signs that this attitude has changed.
- D) Being locked down and shut off from the world has been painful for ordinary North Koreans, many of whom depend on informal trade for their livelihoods.
- E) Unfortunately, expectations that the regime has any serious plans for a wider opening are probably misguided.

74. Pompeii may be the most famous of the towns destroyed by Vesuvius in AD 79, but it is not the only one. Halfway between Pompeii and Naples lies Herculaneum, where eighteenth-century archaeologists discovered a splendid Roman villa, destroyed by volcanic rubble. ---- He was not just a treasure hunter who found a fabulous collection of sculptures, but he also dug tunnels to investigate the house itself. He documented it perfectly.

- A) The excavators recovered hundreds of ancient scrolls.
- B) One of the most spectacular archaeological discoveries of all ages is the Villa of the Papyri in Herculaneum.
- C) Although some results were achieved, the process was extremely slow.
- D) The excavator, Karl Jakob Weber, is considered a forerunner of scientific archaeology.
- E) In a not-too-large room, no less than 1826 ancient book scrolls lay on wooden shelves.

75. Although Alzheimer's disease is on the rise, there is some good news in our fight against it. A blood test that indicates if someone is at high risk of developing Alzheimer's disease has recently been released and is now on sale in the US. ---- But some doctors are not that optimistic about the test in question and they are urging caution, saying that it is too soon to put forward big claims. The test could cause distress for no real benefit.

- A) The test is based on a protein called amyloid, but it will take many years before people see any real benefits.
- B) It is claimed that the test could give people an early warning about deteriorating health, allowing them to take preventative measures.
- C) In theory, they can reduce the risk of disorders like Alzheimer's and the burden on the national health system.
- D) There are few details available yet on how informative this test is for people who have no Alzheimer's symptoms.
- E) For now, we don't know what proportion of people with a positive result and no symptoms end up being diagnosed with Alzheimer's in five or 10 years' time.

76-80: For these questions, choose the irrelevant sentence in the passage.

76. (I) Walk around the old historic centre of Los Alamos, New Mexico, and J. Robert Oppenheimer greets you at every turn. **(II)** The local event centre, which also hosted an Oppenheimer festival to celebrate the release of Christopher Nolan's new film about the father of the atomic bomb, is just off Oppenheimer Drive. **(III)** A bronze statue of Oppenheimer, dapper hat and pipe included, stands on a street corner. **(IV)** To pay respect to the "Trinity test" detonation of Oppenheimer's bomb in the New Mexican desert, there is Trinity Drive, Trinity Urgent Care and Trinity on the Hill Episcopal Church. **(V)** When Oppenheimer was recruited to run the Manhattan Project in 1942, he chose to build his laboratories in Los Alamos.

A) I B) II C) III D) IV E) V

77. (I) In 2010, palaeontologists in southern Peru stumbled across a strange object. **(II)** An enormous species of ancient whale, whose fossils have been discovered in Peru, was one of the heaviest animals that ever lived. **(III)** "It was so weird that the scientists were not even sure it was actually bone," says Eli Amson at the State Museum of Natural History Stuttgart in Germany. **(IV)** It was only during its excavation that they realised the object must have been the bone of an enormous cetacean, a type of aquatic mammal that includes whales and dolphins. **(V)** Amson and his colleagues have since unearthed more bones, piecing together a partial skeleton consisting of four ribs, 13 vertebrae and a small, broken pelvic bone.

A) I B) II C) III D) IV E) V

78. (I) Thin gold flakes emit a faint glimmer after being hit with a laser, and now we are starting to understand why. **(II)** To investigate how this happens, Alan Bowman at the Swiss Federal Institute of Technology in Lausanne (EPFL) and his colleagues took flakes of gold that ranged in thickness from 13 to 113 nanometres. **(III)** This, for example, could give scientists more control over chemical reactions useful for energy storage and catalysis, where gold flakes are often used. **(IV)** They illuminated the flakes with a powerful laser to make them photoluminescent and used a detector to collect and analyse the photons that the gold released. **(V)** Using their measurements and computer simulations, the researchers put together a model for how photoluminescence occurs in gold flakes.

A) I B) II C) III D) IV E) V

79. (I) Artificial fibres that can collect moisture from the air, much like how spider silk gathers dew, could be used for large-scale water collection from fog. **(II)** Zheng says a device about 10 centimetres across could gather enough drinking water for one person. **(III)** Yongmei Zheng at Beihang University in China and her colleagues coated microfibre threads with hydrophilic, or water-loving, titanium dioxide to create bumps. **(IV)** The researchers then used high temperatures to crack the bumps and give them a helical shape. **(V)** The helix creates a larger surface area for a water droplet to attach to and forms stronger bonds with it, which means each bump can carry 2000 times more water than the volume of the bump itself.

A) I B) II C) III D) IV E) V

80. (I) Earth has plenty of places that are difficult to live in, but high altitudes pose a unique set of challenges. **(II)** The air is thin, so it is harder to breathe and therefore tricky to move around or work. **(III)** The weather in high altitudes is also cold and windy, which makes farming difficult. **(IV)** All in all, it is understandable that archaeologists once believed the Tibetan plateau was one of the last places to be permanently settled by humans or other hominins. **(V)** On that basis, the Tibetan plateau is one of the hardest places to live permanently, with an average elevation of 4,000 metres above sea level.

A) I B) II C) III D) IV E) V