

Choose the best option.

54. Flies and mosquitoes both belong to *Diptera*, the group of insects that have only two wings (from the Greek di meaning two and pteron meaning wing). --- We should open our eyes to their enormous economic and environmental importance. For example, many plants (including the cacao plant that gives us chocolate) rely on Diptera as pollinators. Or try to imagine a world without flies to decompose dead animals.
- A) On the other hand, we have much to thank these tiny nuisances, for they revolutionised biological and medical science.
- B) Nevertheless, *Drosophila* may be smaller than a fingernail but it can be a big nuisance in summer when it hovers over maturing fruit or emerges in swarms from litter bins.
- C) However, just as most people accept the bothersome as well as the positive traits of their friends, we shouldn't judge flies for their negative behaviour alone.
- D) Thus, science's partnership with flies started during the early 1900s when biologist Thomas Hunt Morgan at Columbia University in New York decided to test evolutionary theories.
- E) Eventually, it emerged that the entire genomes of flies and humans showed similarities, and mechanisms or processes discovered in flies often turned out to apply to more complex organisms.

55. When people consider extraordinary plants, most probably don't spare a thought for moss. It blends in against the green background of plant life, and seems to grow everywhere – whether you want it to or not. --- Their almost unique resilience allows them to grow practically everywhere on Earth. They are helping scientists understand the evolution of life, and are one of the most ancient plant groups alive today.

- A) But this group of plants, which actually comprises between 12,000 and 15,000 species, is astonishing.
- B) So, mosses are the lifeblood of habitats around the world, with plants and soil in better shape almost everywhere they grow.
- C) Despite their importance, mosses are often overlooked due to their diminutive size.
- D) The contributions of mosses to the structure and function of ecosystems are overlooked, lagging behind our understanding of more complex plants.
- E) Some types of moss, including the Sphagnum species, absorb and hold water in their tissues.



56. For the first time, researchers have managed to use GPT1, precursor to the AI chatbot ChatGPT, to translate MRI imagery into text in an effort to understand what someone is thinking. This recent breakthrough allowed researchers at the University of Texas at Austin to "read" someone's thoughts as a continuous flow of text, based on what they were listening to, imagining or watching. ---- Our laws are not equipped to deal with the widespread commercial use of mind-reading technology – freedom of speech law does not extend to the protection of our thoughts.
- A) Participants in the Texas study, in addition, were asked to listen to audiobooks for 16 hours while inside an MRI scanner.
- B) According to the researchers, the process was labour intensive and the computer only managed to get the gist of what someone was thinking.
- C) The study participants had to cooperate to both train and apply the decoder, so that the privacy of their thoughts was maintained.
- D) As such, it raises significant concerns for privacy, freedom of thought, and even the freedom to dream without interference.
- E) Researchers have been working for decades on brain-machine interfaces in a race to create mind-reading technologies.

57. The origin of life is a central question in modern biology, and probably the hardest to study. This event took place four billion years ago, and it happened at a molecular level – meaning little fossil evidence remains, **leaving behind a puzzle to solve**. ---- The **current scientific consensus is that** life emerged from **non-living** molecules in a natural process called abiogenesis, most likely in the darkness of deep-sea hydrothermal vents.

- A) From its humble origins, life has infected the entire planet with endless beautiful forms.
- B) No clear evidence was left behind other than the existence of life itself.
- C) Once an information system can make copies of itself, natural selection kicks in.
- D) Earth could have birthed self-replicating molecules several times.
- ✓ E) **Many lively beginnings** have been **suggested**, from **unsavoury primordial soups** to **outer space**.
put forward

living

new
recent
current

However,

58. Human history is intimately entwined with the use and control of fire. ---- This is partly due to the incomplete nature of archaeological records, and also because fire use was fleeting, making burnt remains difficult to detect. But a research team has found evidence of the controlled use of fire by direct human ancestors – or hominins – at a site in Spain dating to 250,000 years ago. This pushes the earliest evidence of fire control in Europe back by 50,000 years.

- A) Thus, the controlled use of fire is where humans intentionally start it and then manage its extent or temperature.
- ✓ B) However, working out when our relationship with fire began and how it subsequently evolved has been notoriously difficult.
- C) Still, much older evidence from outside Europe comes from Swartkrans cave in South Africa.
- D) Yet finding hominin artefacts and burnt bones at the same site does not indicate that they coincided in time.
- E) Indeed, there is a concurrent rise in apparent prehistoric fireplaces and burnt "artefacts."

59. Saturn's rings are one of the jewels of the solar system, but it seems that their time is short and their existence fleeting. A new study suggests the rings are between 400 million and 100 million years old – a fraction of the age of the solar system. ---- Research also reveals that they could be gone in another 100 million years.

- A) The rings are visible to anyone with a decent pair of binoculars or a modest back garden telescope.
- B) Occasionally, you can see them entering the Earth's atmosphere at night as shooting stars.
- C) This means we are just lucky to be living in an age when the giant planet still has its magnificent rings.
- D) The rings extend from some 2,000km above Saturn's cloud tops to about 80,000km away.
- E) This also shows that the rings did not form at the same time as Saturn or the other planets.

60. - 65. sorularda verilen cümleler sırasıyla okunduğunda anlam bütünlüğünü bozan cümleyi bulunuz.

60. (I) Artificial intelligence is commonly integrated into smartphones and other household devices. (II) Virtual assistants, including Siri, Alexa, and Cortana, can perform innumerable tasks from making a phone call to navigating the internet. (III) Those who are deaf and hearing impaired can access transcripts of voicemails or other audio, for example. (IV) 48% of experts believe artificial intelligence will replace a large number of blue- and even white-collar jobs, creating greater income inequality and increased unemployment. (V) Other virtual assistants can transcribe conversations as they happen, allowing for more comprehension and participation by those who are communicationally challenged.

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

+ + - +

will

√₂

61. (I) Animal dissections became part of American K-12 school curricula in the 1920s. (II) Dissecting a frog might be one of the most memorable school experiences for many students, whether they are enthusiastic participants, prefer lab time to lectures, or are conscientious objectors to dissection. (III) About 75-80% of North American students will dissect an animal by the time they graduate high school. (IV) An estimated six to 12 million animals are dissected in American schools each year. (V) In at least 21 states and DC, K-12 students have the legal option to request an alternate assignment to animal dissection.

X

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

⊗

62. (I) Scientists in Israel recorded brief pulses of sound coming from tobacco and tomato plants in a greenhouse. (II) They happened more often when the plants had not been watered or at times when they were losing large amounts of water from their leaves. (III) Although it is nice to think plants were sending each other messages about a water shortage through sound, this may not have been the case. (IV) The sounds were about as loud as a quiet conversation but were mostly between 40,000Hz and 60,000Hz, which is too high pitched for human hearing which only goes up to about 20,000Hz. (V) However, they should be audible by dogs, who can hear up to 45,000Hz, or cats, whose hearing goes all the way up to 64,000Hz.

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

✓ ✓ (C) III
 it is not the case
 in fact
 Rather
 Instead

Although

63. (I) Studies of bee feeding patterns in cities, where much of their original food sources have been covered with concrete and tarmac, show a shift in their wild, diverse diet to one dominated by dandelions, clover and brambles. (II) Dandelions are an abundant source of nectar and pollen for bees flying around an environment in which the diversity of food options continues to shrink. (III) These plants grow in very little soil, flower from early spring to just before winter and offer sustenance for bees all year round. (IV) Most see dandelions as "weeds": they don't want them around their house and will reach for the lawnmower, or worse still, a can of weed killer, when one dares to rear its yellow head. (V) What makes dandelions so successful in feeding a wide variety of pollinators is the shape of their flowers.

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

64. (I) We carry them everywhere, take them to bed, to the bathroom and for many people they're the first thing they see in the morning – more than 90% of the world owns or uses a mobile phone and many of us couldn't manage without one. (II) But while health concerns about phones use usually focus on the distraction they can cause while driving, the possible effects of radiofrequency exposure, or just how addictive they can be, the microbial infection risk your phone poses is much less appreciated. (III) A recent survey found that most people in the UK use their phones on the toilet. (IV) Thus, it is not surprising to discover studies have found our mobile phones to be dirtier than toilet seats. (V) It has been estimated that people touch their phone hundreds if not thousands of times a day.

A) I

B) II

C) III

D) IV

E) V

65. (I) When thinking of animals that live in the most extreme environments on Earth, most of us probably don't think of the snailfish. (II) It is common for up to 50% of all species (and sometimes almost 95%) sampled on a single deep-ocean expedition to be new to science. (III) Its name may not hint at extraordinary physical capabilities but the snailfish has broken the record for living at the deepest ocean depths known to humanity. (IV) In fact, scientists believed it was physiologically impossible for fish to survive conditions below 8,200 metres, which was refuted when Australian and Japanese researchers found one at a record-shattering 8,336 metres in the Izu-Ogasawara Trench, south of Japan. (V) That is 158 metres deeper than the previous record, also set by a snailfish during an encounter in 2017 in the Marianas Trench, about 2,000km east of the Philippines.

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

Soruları aşağıdaki parçaya göre cevaplayınız.

In 1798, British physicist Henry Cavendish became the first ^{mk} person to accurately determine the mass of Earth. His painstakingly conducted experiment calculated the density of Earth and thus the value of G, the universal gravitational constant first proposed by Isaac Newton in 1687. While mass and weight are not interchangeable (weight is variable, while mass is constant), Cavendish's "weighing the world" experiment yielded a result of approximately 6 sextillion tons. The total mass of Earth's atmosphere is about 5.5 quadrillion tons, or roughly one millionth of Earth's mass. Earth's atmosphere extends from its ocean, land, and ice-covered surface outward into space, and its density is greatest close to the surface, because the gravitational attraction of the planet pulls the gases and aerosols, which are microscopic suspended particles of dust, soot, smoke, or chemicals, inward. Air is heavier, and thus easier to breathe at sea level, since the air molecules sit close together, compressed by the weight of air from above. As elevation increases, however, air molecules spread farther apart, and the air becomes lighter.

66. It is implied in the passage that before Henry Cavendish, ----.

- A) people had ~~never~~ attempted to calculate the mass of the Earth
- B) there were inaccurate attempts at determining the mass of the Earth
- C) scientists were ~~able~~ to calculate the mass of the Earth's atmosphere
- D) people had ~~not~~ shown any interest in the weight of our planet
- E) Isaac Newton had ~~successfully~~ calculated the density of the Earth

41

In 1798, British physicist Henry Cavendish became the first person to accurately determine the mass of Earth. His painstakingly conducted experiment calculated the density of Earth and thus the value of G, the universal gravitational constant first proposed by Isaac Newton in 1687. While mass and weight are not interchangeable (weight is variable, while mass is constant), Cavendish's "weighing the world" experiment yielded a result of approximately 6 sextillion tons.

The total mass of Earth's atmosphere is about 5.5 quadrillion tons, or roughly one millionth of Earth's mass. Earth's atmosphere extends from its ocean, land, and ice-covered surface outward into space, and its density is greatest close to the surface, because the gravitational attraction of the planet pulls the gases and aerosols, which are microscopic suspended particles of dust, soot, smoke, or chemicals, inward. Air is heavier, and thus easier to breathe at sea level, since the air molecules sit close together, compressed by the weight of air from above. As elevation increases, however, air molecules spread farther apart, and the air becomes lighter.

67. According to the passage, the total mass of Earth's atmosphere ----.

- A) is much more than one million times that of Earth's mass
- B) accumulates at the uppermost level of Earth's atmosphere
- C) determines how easy or how difficult to breathe for humans at different elevations
- D) excludes microscopic suspended particles of dust, soot, smoke, or chemicals
- E) weighs a lot, but still a negligible proportion of Earth's mass

görsel

tiny

In 1798, British physicist Henry Cavendish became the first person to accurately determine the mass of Earth. His painstakingly conducted experiment calculated the density of Earth and thus the value of G, the universal gravitational constant first proposed by Isaac Newton in 1687. While mass and weight are not interchangeable (weight is variable, while mass is constant), Cavendish's "weighing the world" experiment yielded a result of approximately 6 sextillion tons. The total mass of Earth's atmosphere is about 5.5 quadrillion tons, or roughly one millionth of Earth's mass. Earth's atmosphere **extends** from its ocean, land, and ice-covered surface outward into space, and its density is greatest close to the surface, because the gravitational attraction of the planet pulls the gases and aerosols, which are microscopic suspended particles of dust, soot, smoke, or chemicals, inward. **Air is heavier, and thus easier to breathe at sea level,** since the air molecules sit close together, compressed by the weight of air from above. As elevation increases, however, air molecules spread farther apart, and the air becomes lighter.

68. We learn from the passage that the atmosphere's density being closest to the surface ----.

- A) was first identified by Henry Cavendish, but often attributed to Isaac Newton
- B) explains why people cannot breathe comfortably at low elevations
- C) **means we can breathe more easily at sea level or lower altitudes**
- D) is the reason why Earth's mass is a lot heavier than that of the atmosphere
- E) is mainly due to the fact that mass and weight are not interchangeable

11

In 1798, British physicist Henry Cavendish became the first person to accurately determine the mass of Earth. His painstakingly conducted experiment calculated the density of Earth and thus the value of G, the universal gravitational constant first proposed by Isaac Newton in 1687. While mass and weight are not interchangeable (weight is variable, while mass is constant), Cavendish's "weighing the world" experiment yielded a result of approximately 6 sextillion tons. The total mass of Earth's atmosphere is about 5.5 quadrillion tons, or roughly one millionth of Earth's mass. Earth's atmosphere extends from its ocean, land, and ice-covered surface outward into space, and its density is greatest close to the surface, because the gravitational attraction of the planet pulls the gases and aerosols, which are microscopic suspended particles of dust, soot, smoke, or chemicals, inward. Air is heavier, and thus easier to breathe at sea level, since the air molecules sit close together, compressed by the weight of air from above. As elevation increases, however, air molecules spread farther apart, and the air becomes lighter.

Bonus 1:

According to the passage, the underlined word "extends" is closest in meaning to ----.

- A) dates back
- B) transmits
- C) ranges**
- D) prolongs
- E) conveys

C - TEP

Bonus 2:

According to the passage, the primary aim of the author is to ----.

- A) satirize —
- B) exaggerate —
- C) inform**
- D) praise —
- E) refute —

—

45 sn

69. - 71. soruları aşağıdaki parçaya göre cevaplayınız.

Many climate scientists define the start of summer in terms of meteorological phenomena and the calendar year. They claim that the meteorological summer season starts on June 1 and lasts three months, until September 1. Other people define the beginning of summer in academic terms – as the end of the school year. In astronomical terms, the start of summer can be defined very precisely: it begins on the summer solstice, which occurs on June 20 or 21 in the Northern Hemisphere and on December 21 or 22 in the Southern Hemisphere. On the summer solstice in the Northern Hemisphere, the path of the Sun in the sky hits its northernmost point. The summer solstice occurs in the Southern Hemisphere when the Sun reaches its southernmost point. Either position maximizes the hours of daylight in the hemisphere where it occurs, making the summer solstice the longest day of the year. On the summer solstice in June, Earth reaches a point in its orbit around the Sun at which the North Pole tilts most directly toward the Sun, at an angle of about 23.4°. Likewise, on the summer solstice in December, the South Pole tilts most directly toward the Sun. Astronomical summer lasts from the date of the summer solstice until the autumnal equinox, which occurs in the Northern Hemisphere on September 22 or 23 and in the Southern Hemisphere on March 20 or 21.

69. The passage makes it clear that ----.

- A) when summer starts differs depending on where one is positioned in life
- B) summer starts in the Northern hemisphere on December 21 or 22
- C) academics believe summer begins on June 1 and lasts until September 1
- D) the North Pole tilts most directly toward the Sun at autumnal equinox
- E) the discussions as to when summer starts are not relevant to science

Many climate scientists define the start of summer in terms of meteorological phenomena and the calendar year. They claim that the meteorological summer season starts on June 1 and lasts three months, until September 1. Other people define the beginning of summer in academic terms – as the end of the school year. In astronomical terms, the start of summer can be defined very precisely: it begins on the summer solstice, which occurs on June 20 or 21 in the Northern Hemisphere and on December 21 or 22 in the Southern Hemisphere. On the summer solstice in the Northern Hemisphere, the path of the Sun in the sky hits its northernmost point. The summer solstice occurs in the Southern Hemisphere when the Sun reaches its southernmost point. Either position maximizes the hours of daylight in the hemisphere where it occurs, making the summer solstice the longest day of the year. On the summer solstice in June, Earth reaches a point in its orbit around the Sun at which the North Pole tilts most directly toward the Sun, at an angle of about 23.4°. Likewise, on the summer solstice in December, the South Pole tilts most directly toward the Sun. Astronomical summer lasts from the date of the summer solstice until the autumnal equinox, which occurs in the Northern Hemisphere on September 22 or 23 and in the Southern Hemisphere on March 20 or 21.

70. Which of the following is true about the summer solstice that occurs in the Southern Hemisphere?

- A) It takes place on June 20 or 21.
B) It ends on March 20 or 21.
C) It takes place on December 21 or 22.
D) It comes to an end on September 22 or 23.
E) It starts on different times according to different people.

11

1 Many climate scientists define the start of summer in terms of meteorological phenomena and the calendar year. They claim that the meteorological summer season starts on June 1 and lasts three months, until September 1. 2 Other people define the beginning of summer in academic terms – as the end of the school year. 3 In astronomical terms, the start of summer can be defined very precisely: it begins on the summer solstice, which occurs on June 20 or 21 in the Northern Hemisphere and on December 21 or 22 in the Southern Hemisphere. On the summer solstice in the Northern Hemisphere, the path of the Sun in the sky hits its northernmost point. The summer solstice occurs in the Southern Hemisphere when the Sun reaches its southernmost point. Either position maximizes the hours of daylight in the hemisphere where it occurs, making the summer solstice the longest day of the year. On the summer solstice in June, Earth reaches a point in its orbit around the Sun at which the North Pole tilts most directly toward the Sun, at an angle of about 23.4°. Likewise, on the summer solstice in December, the South Pole tilts most directly toward the Sun. Astronomical summer lasts from the date of the summer solstice until the autumnal equinox, which occurs in the Northern Hemisphere on September 22 or 23 and in the Southern Hemisphere on March 20 or 21.

71. What is the main purpose of the passage?

- A) To compare and contrast the different times offered by meteorologists and astronomers for the start of summer
- B) To refute the explanation offered by other people for the start time of summer
- C) To prove that the summertime specified by astronomers is the correct one – not the other alternatives
- D) To inform the reader about the different starting times of summer, with the focus on astronomical terms
- E) To criticize the fact that there are at least three different start times for summer in different parts of the world

m4

45

Many climate scientists define the start of summer in terms of meteorological phenomena and the calendar year. They claim that the meteorological summer season starts on June 1 and lasts three months, until September 1. Other people define the beginning of summer in academic terms – as the end of the school year. In astronomical terms, the start of summer can be defined very precisely: it begins on the summer solstice, which occurs on June 20 or 21 in the Northern Hemisphere and on December 21 or 22 in the Southern Hemisphere. On the summer solstice in the Northern Hemisphere, the path of the Sun in the sky hits its northernmost point. The summer solstice occurs in the Southern Hemisphere when the Sun reaches its southernmost point. Either position maximizes the hours of daylight in the hemisphere where it occurs, making the summer solstice the longest day of the year. On the summer solstice in June, Earth reaches a point in its orbit around the Sun at which the North Pole tilts most directly toward the Sun, at an angle of about 23.4°. Likewise, on the summer solstice in December, the South Pole tilts most directly toward the Sun. Astronomical summer lasts from the date of the summer solstice until the autumnal equinox, which occurs in the Northern Hemisphere on September 22 or 23 and in the Southern Hemisphere on March 20 or 21.

Bonus 1:

According to the passage, the underlined word "path" is **closest in meaning** to ----.

- A) distance X
- B) transmission X
- C) **excursion**
- D) size X
- E) sparkle X

Journey / Trip

72. - 74. soruları aşağıdaki parçaya göre cevaplayınız.

Organic farming is a sustainable agricultural system that uses ecologically based pest controls and biological fertilizers that are derived largely from animal and plant wastes and nitrogen-fixing cover crops. Modern organic farming was developed as a response to the environmental harm caused by the use of chemical pesticides and synthetic fertilizers in conventional agriculture, and it has numerous ecological benefits. Compared with conventional agriculture, organic farming uses fewer pesticides, reduces soil erosion, decreases nitrate leaching into groundwater and surface water, and recycles animal wastes back into the farm. These benefits are counterbalanced by higher food costs for consumers and generally lower yields. Indeed, yields of organic crops have been found to be about 25 percent lower overall than conventionally grown crops, although this can vary considerably depending upon the type of crop. The challenge for future organic agriculture will be to maintain its environmental benefits, increase yields, and reduce prices while meeting the challenges of climate change and an increasing world population.

72. Which of the following is not an ecological benefit of organic farming?

- 79 T 1 False 4'
- A) Employing reduced pesticide usage
B) Mitigating soil erosion
C) Yielding lower crops in general
D) Minimizing nitrate runoff into groundwater and surface water
E) Reutilizing animal waste within the farm ecosystem

Organic farming is a sustainable agricultural system that uses ecologically based pest controls and biological fertilizers that are derived largely from animal and plant wastes and nitrogen-fixing cover crops. Modern organic farming was developed as a response to the environmental harm caused by the use of chemical pesticides and synthetic fertilizers in conventional agriculture, and it has numerous ecological benefits. Compared with conventional agriculture, organic farming uses fewer pesticides, reduces soil erosion, decreases nitrate leaching into groundwater and surface water, and recycles animal wastes back into the farm. These benefits are counterbalanced by higher food costs for consumers and generally lower yields. Indeed, yields of organic crops have been found to be about 25 percent lower overall than conventionally grown crops, although this can vary considerably depending upon the type of crop. The challenge for future organic agriculture will be to maintain its environmental benefits, increase yields, and reduce prices while meeting the challenges of climate change and an increasing world population.

73. According to the passage, conventional farming ----.

- A) brings about higher yields than organic farming
B) will have a challenging future due to soil erosion
C) is as harmful to the soil as organic farming
D) relies heavily on recycled animal waste
E) has yields 25 percent lower than organic farming

Organic farming is a sustainable agricultural system that uses ecologically based pest controls and biological fertilizers that are derived largely from animal and plant wastes and nitrogen-fixing cover crops. Modern organic farming was developed as a response to the environmental harm caused by the use of chemical pesticides and synthetic fertilizers in conventional agriculture, and it has numerous ecological benefits. Compared with conventional agriculture, organic farming uses fewer pesticides, reduces soil erosion, decreases nitrate leaching into groundwater and surface water, and recycles animal wastes back into the farm. These benefits are counterbalanced by higher food costs for consumers and generally lower yields. Indeed, yields of organic crops have been found to be about 25 percent lower overall than conventionally grown crops, although this can vary considerably depending upon the type of crop. The challenge for future organic agriculture will be to maintain its environmental benefits, increase yields, and reduce prices while meeting the challenges of climate change and an increasing world population.

74. What is the passage mainly about?

- A) The difference between organic farming and conventional farming
- B) Organic farming, with a focus on its advantages and disadvantages
- C) Why yields are much lower in organic farming practices
- D) The ways in which yields in organic farming can be increased in the future
- E) A comprehensive account of organic farming practices

Organic farming is a sustainable agricultural system that uses ecologically based pest controls and biological fertilizers that are derived largely from animal and plant wastes and nitrogen-fixing cover crops. Modern organic farming was developed as a response to the environmental harm caused by the use of chemical pesticides and synthetic fertilizers in conventional agriculture, and it has numerous ecological benefits. Compared with conventional agriculture, organic farming uses fewer pesticides, reduces soil erosion, decreases nitrate leaching into groundwater and surface water, and recycles animal wastes back into the farm. These benefits are counterbalanced by higher food costs for consumers and generally lower yields. Indeed, yields of organic crops have been found to be about 25 percent lower overall than conventionally grown crops, although this can vary considerably depending upon the type of crop. **The challenge for future organic agriculture will be to maintain its environmental benefits, increase yields, and reduce prices while meeting the challenges of climate change and an increasing world population.**

Bonus:

Which of the following is not a possible threat to organic farming in the future?

- A) The rise in population ✓
B) Global warming ✓
C) The increasing demand for food ✓
D) Price stability
E) Affordability

L5 sn
→

75. - 77. soruları aşağıdaki parçaya göre cevaplayınız.

Zombie computer is the name given to a computer or personal computer connected to the Internet and taken over by a computer worm, virus, or other "malware." Groups of such machines, called botnets (from a combination of robot and network), often carry out criminal actions without their owners' detecting any unusual activity. Over time, however, most zombie computers accumulate so much malware that they become unusable by their owners. Often, the only cure for heavily infected machines is to completely erase the hard drive and reinstall the operating system. There are millions of zombie computers in the world, about one-fourth of them located in the United States. The most typical use of botnets is for widely disseminating spam (unwanted commercial e-mail), which makes it difficult to determine the original spammer. Cybercrime experts believe that 50–80 percent of all spam is generated by botnets. Similarly, botnets are used to transmit phishing scams, which seek to extract personal data from unwary individuals. Occasionally, botnets are used to launch denial of service attacks on World Wide Web sites, effectively shutting them down. Although criminals have sometimes tried to extort money from Web site administrators with threats of continual denial of service attacks, such attacks more often are based on some political, environmental, or religious **motivation**.

75. It can be concluded from the passage anyone with a personal computer ---.

- A) knows what botnets are and for what purposes they are used
- B) is aware that they will definitely be the target of denial of service attacks
- C) could have become a cybercrime expert if they had put their mind to it
- D) might have had their computer taken over by a computer worm
- E) will know that they will have to erase their hard drive one way or the other

31

Zombie computer is the name given to a computer or personal computer connected to the Internet and taken over by a computer worm, virus, or other "malware." Groups of such machines, called botnets (from a combination of robot and network), often carry out criminal actions without their owners' detecting any unusual activity. Over time, however, most zombie computers accumulate so much malware that they become unusable by their owners. Often, the only cure for heavily infected machines is to completely erase the hard drive and reinstall the operating system. There are millions of zombie computers in the world, about one-fourth of them located in the United States. The most typical use of botnets is for widely disseminating spam (unwanted commercial e-mail), which makes it difficult to determine the original spammer. Cybercrime experts believe that 50–80 percent of all spam is generated by botnets. Similarly, botnets are used to transmit phishing scams, which seek to extract personal data from unwary individuals. Occasionally, botnets are used to launch denial of service attacks on World Wide Web sites, effectively shutting them down. Although criminals have sometimes tried to extort money from Web site administrators with threats of continual denial of service attacks, such attacks more often are based on some political, environmental, or religious motivation.

76. Which of the following is true about denial of service attacks according to the passage?

- A) People think they won't suffer from them unless they are politicians.
- B) They start with things that seem relatively innocent, such as spam.
- C) They can serve the doers by helping them extract personal data from careless individuals.
- D) Different from other illegal attacks, their sole purpose is to extort money.
- E) They are mostly performed due to political, environmental, or religious reasons.

11

✓

Zombie computer is the name given to a computer or personal computer connected to the Internet and taken over by a computer worm, virus, or other "malware." Groups of such machines, called botnets (from a combination of robot and network), often carry out criminal actions without their owners' detecting any unusual activity. Over time, however, most zombie computers accumulate so much malware that they become unusable by their owners. Often, the only cure for heavily infected machines is to completely erase the hard drive and reinstall the operating system. There are millions of **zombie computers in the world, about one-fourth of them located in the United States**. The most typical use of botnets is for widely disseminating spam (unwanted commercial e-mail), which makes it difficult to determine the original spammer. Cybercrime experts believe that 50–80 percent of all spam is generated by botnets. Similarly, botnets are used to transmit phishing scams, which seek to extract personal data from unwary individuals. Occasionally, botnets are used to launch denial of service attacks on World Wide Web sites, effectively shutting them down. Although criminals have sometimes tried to extort money from Web site administrators with threats of continual denial of service attacks, such attacks more often are based on some political, environmental, or religious **motivation**.

77. According to the passage, the United States ----.

- A) is the place where most cyber-attacks take place
- B) holds a considerable number of zombie computers**
- C) is the center of denial of service attacks
- D) has a great network of cybercrime experts
- E) leads the world in terms of the number of zombie computers

Zombie computer is the name given to a computer or personal computer connected to the Internet and taken over by a computer worm, virus, or other "malware." Groups of such machines, called botnets (from a combination of robot and network), often carry out criminal actions without their owners' detecting any unusual activity. Over time, however, most zombie computers accumulate so much malware that they become unusable by their owners. Often, the only cure for heavily infected machines is to completely erase the hard drive and reinstall the operating system. There are millions of zombie computers in the world, about one-fourth of them located in the United States. The most typical use of botnets is for widely disseminating spam (unwanted commercial e-mail), which makes it difficult to determine the original spammer. Cybercrime experts believe that 50–80 percent of all spam is generated by botnets. Similarly, botnets are used to transmit phishing scams, which seek to extract personal data from unwary individuals. Occasionally, botnets are used to launch denial of service attacks on World Wide Web sites, effectively shutting them down. Although criminals have sometimes tried to extort money from Web site administrators with threats of continual denial of service attacks, such attacks more often are based on some political, environmental, or religious motivation.

Bonus 1:

According to the passage, the underlined word "motivation" is closest in meaning to ----.

- A) trail
- B) communication
- C) ground
- D) cordiality
- E) enthusiasm

reason

78. - 80. soruları aşağıdaki parçaya göre cevaplayınız.

Like carbon dioxide (CO₂), N₂O can absorb infrared radiation from the Sun, but its structure allows it to do so much more efficiently. Its potency as a greenhouse gas is about 300 times that of carbon dioxide. So the cans of whipped cream and the small canisters containing the gas have a surprising 'carbon footprint'. Each can or canister contains just eight grams of N₂O. But when released into the atmosphere this has the equivalent effect of 2.4 kilograms of CO₂, which is about the amount emitted from driving an SUV for ten miles. The concentration of N₂O in the atmosphere is very low, about a thousand times lower than CO₂. But, like CO₂, N₂O levels are on the rise. Despite these low concentrations, N₂O's potency means it still has a significant effect on the climate. It is the third most damaging greenhouse gas and is responsible for about 6% of the warming we are observing today (methane is the second, accounting for 10%). Unfortunately, N₂O's impact doesn't stop there. N₂O is now the main threat to the ozone layer since CFC chemicals were banned in the 1980s. Once N₂O is released at ground level it takes about 100 years to migrate to the stratosphere where UV light catalysis its conversion to nitric oxide (NO). This then reacts with ozone (O₃), forming another pollutant - nitrogen dioxide (NO₂), and molecular oxygen (O₂) - which already makes up 21% of the atmosphere.

78. Why is N₂O considered a threat to the atmosphere?

- A) It takes about 100 years to migrate to the stratosphere.
- B) It is already the third main pollutant and its potential to do harm is much higher than that of CO₂.
- C) Its effects are negligible when compared to those of CO₂.
- D) Its carbon footprint is surprisingly lower than that of methane.
- E) Its concentration in the atmosphere is about a thousand times lower than CO₂.

3

Like carbon dioxide (CO₂), N₂O can absorb infrared radiation from the Sun, but its structure allows it to do so much more efficiently. Its potency as a greenhouse gas is about 300 times that of carbon dioxide. So the cans of whipped cream and the small canisters containing the gas have a surprising 'carbon footprint'. Each can or canister contains just eight grams of N₂O. But when released into the atmosphere this has the equivalent effect of 2.4 kilograms of CO₂, which is about the amount emitted from driving an SUV for ten miles. The concentration of N₂O in the atmosphere is very low, about a thousand times lower than CO₂. But, like CO₂, N₂O levels are on the rise. Despite these low concentrations, N₂O's potency means it still has a significant effect on the climate. It is the third most damaging greenhouse gas and is responsible for about 6% of the warming we are observing today (methane is the second, accounting for 10%). Unfortunately, N₂O's impact **doesn't stop there**. N₂O is now the main threat to the ozone layer since CFC chemicals were banned in the 1980s. Once N₂O is released at ground level it takes about 100 years to migrate to the stratosphere where UV light catalysis its conversion to nitric oxide (NO). This then reacts with ozone (O₃), forming another pollutant - nitrogen dioxide (NO₂), and molecular oxygen (O₂) - which already makes up 21% of the atmosphere.

79. According to the passage, **though a canister of whipped cream contains only 8 grams of N₂O, ----**.

- A) it should be kept in a place where the release of N₂O can be ensured by a specialist team
- B) the N₂O in the container can absorb infrared radiation from the Sun
- C) when released to the atmosphere it has the equivalent effect of 2.4 kilograms of CO₂
- D) it covers only a little space or mass in the atmosphere
- E) when harnessed the N₂O in the container can move an SUV for ten miles

Like carbon dioxide (CO₂), N₂O can absorb infrared radiation from the Sun, but its structure allows it to do so much more efficiently. Its potency as a greenhouse gas is about 300 times that of carbon dioxide. So the cans of whipped cream and the small canisters containing the gas have a surprising 'carbon footprint'. Each can or canister contains just eight grams of N₂O. But when released into the atmosphere this has the equivalent effect of 2.4 kilograms of CO₂, which is about the amount emitted from driving an SUV for ten miles. The concentration of N₂O in the atmosphere is very low, about a thousand times lower than CO₂. But, like CO₂, N₂O levels are on the rise. Despite these low concentrations, N₂O's potency means it still has a significant effect on the climate. It is the third most damaging greenhouse gas and is responsible for about 6% of the warming we are observing today (methane is the second, accounting for 10%). Unfortunately, N₂O's impact doesn't stop there. N₂O is now the main threat to the ozone layer since CFC chemicals were banned in the 1980s. Once N₂O is released at ground level it takes about 100 years to migrate to the stratosphere where UV light catalysis its conversion to nitric oxide (NO). This then reacts with ozone (O₃), forming another pollutant - nitrogen dioxide (NO₂), and molecular oxygen (O₂) - which already makes up 21% of the atmosphere.

80. The passage is mainly about ----.

- A) what N₂O is and how it is potentially dangerous for the atmosphere and climate
- B) the potential damage N₂O has inflicted on the ozone layer to date
- C) a comparison between N₂O and CO₂ in terms of the damage they will inflict on the atmosphere
- D) how scientists can solve the potential hazards posed by N₂O and CO₂
- E) the possibility of banning cannisters and cans containing N₂O

Like carbon dioxide (CO₂), N₂O can absorb infrared radiation from the Sun, but its structure allows it to do so much more efficiently. Its potency as a greenhouse gas is about 300 times that of carbon dioxide. So the cans of whipped cream and the small canisters containing the gas have a surprising 'carbon footprint'. Each can or canister contains just eight grams of N₂O. But when released into the atmosphere this has the equivalent effect of 2.4 kilograms of CO₂, which is about the amount emitted from driving an SUV for ten miles. The concentration of N₂O in the atmosphere is very low, about a thousand times lower than CO₂. But, like CO₂, N₂O levels are on the rise. Despite these low concentrations, N₂O's potency means it still has a significant effect on the climate. It is the third most damaging greenhouse gas and is responsible for about 6% of the warming we are observing today (methane is the second, accounting for 10%). Unfortunately, N₂O's **impact doesn't stop there**. N₂O is now the main threat to the ozone layer since CFC chemicals were banned in the 1980s. Once N₂O is released at ground level it takes about 100 years to migrate to the stratosphere where UV light catalysis its conversion to nitric oxide (NO). This then reacts with ozone (O₃), forming another pollutant - nitrogen dioxide (NO₂), and molecular oxygen (O₂) - which already makes up 21% of the atmosphere.

Bonus 1:

According to the passage, the underlined phrase "impact doesn't stop there" is used to ----.

- A) draw attention to the bans
- B) criticize the indifference of humans
- C) highlight the importance of certain chemicals
- D) arouse curiosity as to how N₂O forms
- E) caution the reader about something

warn