

1-20. sorularda, cümlede boş bırakılan yerlere uygun düşen sözcük ya da ifadeyi bulunuz.

1. Reliable information concerning changes in Arctic and Antarctic ice is difficult to obtain and scientists do not always draw the same ---- from the data.

- A) conclusions
- B) ambiguities
- C) demonstrations
- D) features
- E) indications

2. Although most greenhouse gases occur naturally, the evolution of an industrial civilization has ---- increased levels of these naturally occurring gases.

- A) irrelevantly
- B) plausibly
- C) intentionally
- D) markedly
- E) promisingly

3. The ability to catch larger numbers of fish and the increased market ---- to be an unfortunate combination for many species of fish.

- A) prompted
- B) referred
- C) proved
- D) revealed
- E) speculated

4. Scientists are far from replicating the complexity of human hands, so the hands of robots that are used today in real applications are ----.

- A) efficient
- B) clumsy
- C) prolific
- D) versatile
- E) obedient

5. Under the right conditions, if the use of land is carefully regulated and special practices are started to conserve water, desertification can be greatly slowed or even ----.

- A) accelerated
- B) conserved
- C) reversed
- D) penetrated
- E) cultivated

6. Populations that have ---- their water supplies or have allowed their water to become polluted have suffered serious consequences.

- A) run out
- B) drawn on
- C) set up
- D) made up
- E) brought up

7. Life is often said ---- spontaneously in a 'primordial soup', a sort of chemical stock ---- in the pools and puddles of early Earth.

- A) to be started / was forming
- B) having started / had formed
- C) to start / will form
- D) to have started / formed
- E) to have been started / has formed

10. ---- entering Earth's upper atmosphere, a meteoroid begins to collide ---- an ever-increasing number of air molecules.

- A) By / in
- B) For / at
- C) On / into
- D) From / to
- E) Upon / with

8. When ---- to act quickly, humans ---- their instincts rather than conscious, rational analysis.

- A) forcing / use
- B) to force / used
- C) forced / will use
- D) being forced / had used
- E) to be forced / have used

11. Even if we had artificial hands comparable ---- human hands and sophisticated artificial skin, we would still need to be able to design a way to control them to manipulate objects ---- a human-like way.

- A) to / in
- B) by / over
- C) with / to
- D) in / for
- E) at / on

9. Most nosebleeds involve superficial bleeding ---- the capillaries close to the skin and can be stopped ---- pressure and an ice pack.

- A) for / by
- B) over / to
- C) in / at
- D) from / with
- E) on / up

12. ---- aeroplanes have made it easier for us to explore the world, nearly one in three of us claims to be anxious or fearful of flying.

- A) Because
- B) Just as
- C) In case
- D) Unless
- E) Although

13. ---- some large felines rely on co-operative hunting or bursts of intense speed, tigers are semi-solitary and depend on their cryptic appearance to ambush prey.

- A) Once
- B) As long as
- C) Provided
- D) Whereas
- E) Unless

14. Humans may have special facial recognition brain structures ---- they can process a large number of faces very quickly or under a wide range of viewing conditions.

- A) unless
- B) whereas
- C) so that
- D) or else
- E) though

15. Forensic scientists can use anything to link a suspect to a crime scene, ---- they can prove the samples are unlikely to match by chance.

- A) as long as
- B) since
- C) no matter
- D) though
- E) even if

16. ---- the awesome and destructive power of flood waters, humans have long sought to tame rivers and streams to prevent future flooding.

- A) By means of
- B) Rather than
- C) Instead of
- D) Given
- E) In spite of

17. Gene editing technology allows us for the first time to be able to dream of curing diseases that we could not before, ----, while the technique shows great promise, human trials are still a long way off.

- A) therefore
- B) in addition
- C) for example
- D) however
- E) similarly

18. ---- regulations to control ocean pollution adopted by most developing countries, pollution still threatens the survival of many species of fish.

- A) Before
- B) Despite
- C) Due to
- D) Instead of
- E) With the help of

19. Just like having a family history of schizophrenia, exposure to urban environments appears ---- necessary ---- sufficient for developing schizophrenia.

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

20. While cosmologists agree that the Universe will end in billions of years' time, what they are undecided on is ---- it will happen.

- A) how
- B) that
- C) whose
- D) where
- E) which

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21-25. sorularda, aşağıdaki parçada numaralanmış yerlere uygun düşen sözcük ya da ifadeyi bulunuz.

Developed by Boston Dynamics, a Massachusetts robotics firm, PETMAN is a humanoid bot that walks, bends and waves its arms. It has been designed to help the US military test chemical protection suits by mimicking the body movements of actual soldiers. PETMAN's gyrations are **(21)** ---- realistic, **(22)** ---- he is not designed to talk or respond to users. The iCub scores more highly in that department. **(23)** ---- through a collaboration of European research institutions, the robot is about the same size as a human toddler and, unlike PETMAN, has a human-like face. **(24)** ---- its features are quite basic, the iCub possesses eyes, indeed, some versions even have eyelids. Possibly because it is so infant-like, the iCub is one of the most convincing human mimics. Its main goal is to aid research **(25)** ---- the cognitive development of children.

21.

- A) vainly
- B) separately
- C) reluctantly
- D) deliberately
- E) uncannily

22.

- A) so
- B) yet
- C) as
- D) and
- E) when

23.

- A) Produced
- B) Producing
- C) Having produced
- D) To produce
- E) To be produced

24.

- A) Since
- B) Unless
- C) While
- D) As long as
- E) As though

25.

- A) into
- B) up
- C) by
- D) through
- E) off

26-30. sorularda, aşağıdaki parçada numaralanmış yerlere uygun düşen sözcük ya da ifadeyi bulunuz.

According to Einstein's General Relativity, gravity travels at the speed of light. **(26)** ---- light, gravity cannot simply be switched on and off, and is also extremely weak. Over the years, various attempts **(27)** ---- to measure the speed using studies of astronomical phenomena, such as the time delay of light as it passes through the huge gravitational field of Jupiter. While the results have been broadly **(28)** ---- Einstein's prediction, they have lacked the precision **(29)** ---- for compelling evidence. That is now been provided by the celebrated detection of gravitational waves. Analysis of the signals picked **(30)** ---- by the two giant LIGO instruments in the US has confirmed that gravity does indeed travel through space at the speed of light.

26.

- A) Due to
- B) Instead of
- C) Unlike
- D) Despite
- E) With the help of

27.

- A) have been made
- B) were made
- C) are being made
- D) are made
- E) will be made

28.

- A) regardless of
- B) in terms of
- C) in the face of
- D) irrespective of
- E) in line with

29.

- A) needing
- B) having needed
- C) to need
- D) needed
- E) to have needed

30.

- A) for
- B) at
- C) with
- D) over
- E) up

31-41. sorularda, verilen cümleyi uygun şekilde tamamlayan ifadeyi bulunuz.

31. Even though many thousands of meteorites fall to earth each year, ---- .

- A) they are classified according to the amount of silicate and metallic nickel-iron that they contain
- B) they can be named after the specific geographic location in which they fall
- C) a meteoroid may survive its passage through Earth's atmosphere to become a meteorite
- D) meteor activity is often described in terms of the number of meteors observed per hour
- E) it is rare to hear of one hitting a human being

32. ----, the annual death toll from untreatable infections could rise to 10 million people worldwide by 2050.

- A) Until they no longer work against virulent, resistant strains of bacteria
- B) Because there are now technologies and powerful research tools to develop new medications
- C) Just as it is difficult to grow microbes in natural world in laboratory conditions
- D) Unless new medications are developed, and developed soon
- E) Since the search for new, more effective medicines has never been more urgent

33. Because they can take decades to get from the surface to groundwater, ----.

- A) the use of pesticides has increased the amount of food that can be grown
- B) crops are protected from destruction by insects and other pests with the use of pesticides
- C) the problem with pesticides in groundwater could become worse in the future
- D) environmental agencies are working to understand pesticide contamination
- E) this type of groundwater contamination is easier to detect

34. If the bottom of the food chain is disturbed, ----.

- A) the role of humans in the food chain varies, depending on what the human consumes as food
- B) it could impact animals along with the rest of the chain, including humans
- C) one of every five species of insect, bird, and animal would die out
- D) habitat destruction can also occur underwater
- E) each marine animal plays an important part in the food chain

35. ----, there are variations in colour and brightness.

- A) Since the Sun looks very different to the tiny points of light that stars appear to be
- B) As a star like the Sun converts its hydrogen into helium
- C) When astronomers compared the brightness of stars to their surface temperature, measured by colour
- D) Although at first sight all the stars visible with the naked eye look pretty much the same
- E) Unless stars or supernovas with a known brightness are often used to measure distances in space

36. Resources in the open ocean are considered to belong to every nation, ---- .

- A) and fishing regulations are government restrictions on where and how fish may be caught
- B) similarly, the nation in control of the territorial waters may defend those waters from other nations
- C) therefore, any nation may extract resources from there
- D) in contrast, in modern day, countries have established exclusive economic zones
- E) otherwise, that nation's fishermen or whales could easily travel out into the open ocean

37. Thanks to the low atmospheric pressure, water boils away almost instantly on the Mars, ----.

- A) so it was believed to play little or no role in shaping the Martian surface
- B) as even this short-lived boiling water does have a significant geological impact
- C) but no large standing bodies of liquid water exist on the planet's surface
- D) and over 60 meteorites have been found that came from Mars
- E) when scientific searches for evidence of life began in the 19th century

38. ----, no such benefits have been detected so far.

- A) As some children with autism spectrum disorders benefit from the company of a dog
- B) Provided dogs are trained to assist people with metabolic conditions
- C) Just as a dog detects minute changes in the body odour of its owner
- D) Although claims have been made that contact with dogs might improve mental functioning
- E) Even if the relationship between us and dogs has been in existence for over 10,000 years

39. The Internet may give us amazing access to information and computing from smart objects all around us, ---- .

- A) so it is made from a vast global collection of computer networks that all interconnect
- B) but some people warn that our privacy may be reduced because every device could be monitoring us
- C) yet it is estimated there will be more than 20 billion connected devices
- D) while availability of Internet access has grown rapidly
- E) even if broadband technologies supply considerably higher bit rates than dial-up

40. Once the population of the species has rebounded, ---- .

- A) recovery plans prevent hunters and fishers from killing an endangered species or threatened species
- B) billions of dollars' worth of plants and animals are traded
- C) human activity threatened the existence of numerous marine mammals
- D) providing protection that allows the population of a species to recover was crucial
- E) it is removed from the list of endangered or threatened species

41. ----, any warming would still persist for many centuries.

- A) Though global greenhouse gas emissions can be attributed to different sectors of the economy
- B) As around two thirds of greenhouse gas emissions arise from the combustion of fuels
- C) Unless emissions are reduced in sectors other than electricity generation
- D) Even if emissions of all greenhouse gases ceased entirely tomorrow
- E) As long as global warming remains a politically charged issue

42-47. sorularda, verilen İngilizce cümleye anlamca en yakın Türkçe cümleyi bulunuz.

42. From an evolutionary perspective, as human brains got more complex, there was a firm upper boundary on how large they could grow, given that a skull still has to fit through a pelvis for birth to occur.

- A) Evrimsel bir bakış açısından, insan beyni gitgide karmaşık hale gelmesine rağmen, doğumun gerçekleşmesi için bir kafatasının mutlaka bir pelvise sığması gerektiği için, ne kadar büyüyecekleri konusunda katı bir üst sınır daima vardı.
- B) İnsan beyni daha karmaşık hale geldikçe, evrimsel bir bakış açısıyla, doğumun gerçekleşebilmesi için ve bir kafatasının yine de bir pelvise sığabilir olması gerektiği düşünüldüğünde, en fazla büyüyecekleri katı bir üst sınır konusu vardı.
- C) Evrimsel bir bakış açısından, insan beyni daha karmaşık hale geldikçe, ne kadar büyüyecekleri konusunda katı bir üst sınır ortaya çıktı çünkü doğumun gerçekleşmesi için bir kafatasının yine de bir pelvise sığması gerekiyordu.
- D) Evrimsel bir bakış açısından, insan beyni daha karmaşık hale geldikçe, doğumun gerçekleşmesi için bir kafatasının halen bir pelvise sığması gerektiği göz önüne alındığında, ne kadar büyüyecekleri konusunda katı bir üst sınır vardı.
- E) Evrimsel bir bakış açısından, insan beyni çok daha karmaşık hale geldiğinden, en çok büyüyecekleri katı bir üst sınır konusu ortaya çıktı çünkü doğumun gerçekleşmesi için bir kafatasının kesinlikle bir pelvise sığması gerekecekti.

43. "Photocatalysts" that drive an artificial process that replicates photosynthesis in which solar energy is converted to useful materials are promising in this regard, given that we are able to develop the technology needed for them.

- A) Güneş enerjisinin faydalı malzemelere dönüştürüldüğü fotosentezi güçlendirerek yapay bir süreci tetikleyen "fotokatalistler", onlar için ihtiyaç duyduğumuz teknolojiyi geliştirebildiğimiz göz önüne alındığında, bu bağlamda umut verici olabilirler.
- B) Güneş enerjisinin faydalı malzemelere dönüştürüldüğü fotosentezi kopyalayan yapay bir süreci tetikleyen "fotokatalistler", onlar için ihtiyaç duyulan teknolojiyi geliştirebildiğimiz göz önüne alındığında, bu bağlamda umut vericidir.
- C) Güneş enerjisinin çeşitli faydalı malzemelere dönüştürülebildiği fotosentezi kopyalayan yapay bir süreci tetiklemede işe yarayan "fotokatalistler", onların ihtiyaç duydukları teknolojiyi geliştirdiğimiz düşünüldüğünde, bu bağlamda umut verici olabilirler.
- D) Güneş enerjisinin faydalı malzemelere dönüştürüldüğü fotosentezi kopyalayıp yapay bir süreci tetiklemeleriyle bilinen "fotokatalistler", onlar için gerekli teknolojiyi geliştirebileceğimiz göz önüne alındığında, bu bağlamda umut vericidir.
- E) Güneş enerjisinin faydalı malzemelere dönüştürüldüğü ve sayesinde fotosentezi kopyalayan yapay bir süreci tetiklediği "fotokatalistler", onlar için gerekli olabilecek teknolojiyi geliştirdiğimiz göz önüne alındığında, bu bağlamda umut vericidir.

44. The overall goal of glass manufacturing is to convert crystalline raw materials into a homogeneous, flowing liquid that is free of visible defects that can be formed into a final product.

- A) Cam imalatının asıl amacı, kristal ham maddeleri nihai bir ürüne dönüştürülebilir ve görünür kusurlarından arınmış homojen, akan bir sıvıya dönüştürmek olmalıdır.
- B) Cam imalatı, kristal ham maddelerini nihai bir ürüne dönüştürülebilir, görünür kusurlarından arınmış homojen ve akan bir sıvıya dönüştürür.
- C) Cam imalatının genel amacı, kristal ham maddeleri nihai bir ürüne dönüştürülebilir görünür kusurlarından arınmış homojen, akan bir sıvıya dönüştürmektir.
- D) Cam imalatı, genel amacından dolayı, kristal ham maddeleri nihai bir ürüne dönüştürülebilir, görünür kusurlarından da arınmış homojen bir şekilde akan bir sıvıya dönüştürür.
- E) Cam imalatının genel amacı, kristal ham maddeleri bir ürüne dönüştürülme potansiyeli olan ve görünür kusurlarından arınmış homojen bir biçimde akan bir sıvıya dönüştürmektir.

45. The Netherlands has implemented a manure charge system, whereby farmers pay for phosphate loadings on their land above what they are allowed to apply.

- A) Hollanda, çiftçilerin arazilerindeki kendilerine izin verilenin üzerinde fosfat yüklemeleri için ödeme yaptıkları bir gübre ücretlendirme sistemi uygulamaktadır.
- B) Hollanda, bir gübre ücretlendirme sistemi uygulamaktadır ki bunun vasıtasıyla çiftçiler arazilerinde kendilerine izin verilenin üzerinde fosfat yüklerlerse ödeme yaparlar.
- C) Hollanda'da, çiftçilerin arazilerindeki kendilerine izin verilenin üzerinde fosfat yüklemesi olduğunda ödeme yaptıkları bir gübre ücretlendirme sistemi uygulanmaktadır.
- D) Hollanda'da, bir gübre ücretlendirme sistemi uygulanmaktadır ki bununla çiftçiler arazilerindeki kendilerine izin verilenin üzerinde fosfat yüklemesi olduğunda ödeme yaparlar.
- E) Hollanda, çiftçilerin arazilerindeki kendilerine izin verilen miktarın üzerinde fosfat yüklediklerinde ödeme yaptıkları bir gübre ücretlendirme sistemi uygulamaktadır.

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46. Chemically similar to nicotine, neonicotinoids are insecticides that protect against plant-consuming insects like aphids, but seriously harm beneficial insects, like bees.

A) Kimyasal açıdan nikotine benzetlenen neonikotinoidler, yaprak bitleri gibi bitki tüketen tüm böceklere karşı koruyan, ama arılar gibi faydalı böceklere de aynı şekilde zarar veren böcek öldürücüleridir.

B) Kimyasal açıdan nikotine benzemesine rağmen neonikotinoidler, arılar gibi faydalı böceklere ciddi şekilde zarar veren ama yaprak bitleri gibi bitki tüketen böceklere karşı da koruyan böcek öldürücüleridir.

C) Kimyasal açıdan nikotine benzeyen neonikotinoidler, yaprak bitleri gibi bitki tüketen böceklere karşı korumasına rağmen, arılar gibi faydalı böceklere ciddi şekilde zarar verebilen böcek öldürücüleridir.

D) Kimyasal açıdan nikotine benzetlenen neonikotinoidler, yaprak bitleri gibi bitki tüketen böceklere karşı koruyucuysen, arılar gibi çok faydalı böceklere ciddi şekilde zarar vermesi olası böcek öldürücüleridir.

E) Kimyasal açıdan nikotine benzeyen neonikotinoidler, yaprak bitleri gibi bitki tüketen böceklere karşı koruyan, ama arılar gibi faydalı böceklere ciddi şekilde zarar veren böcek öldürücüleridir.

47. Metals are always good conductors no matter what, but some other so-called apparent metals are insulators for reasons that are not well understood.

A) Metaller ne olursa olsun her zaman iyi iletkenlerdir, ancak bazı diğer sözde bariz metaller yalıtıcıdır ve bunun nedeni iyi anlaşılır.

B) Metaller ne olursa olsun her zaman iyi iletkenlerdir, ancak bazı diğer sözde bariz metaller iyi anlaşılmayan nedenlerden dolayı yalıtıcıdır.

C) Metaller her zaman iyi iletkenler olsalar da bazı diğer sözde metaller henüz iyi anlaşılmamış nedenlerden ötürü yalıtıcıdır.

D) Bazı diğer sözde bariz metaller iyi anlaşılmayan nedenlerden yalıtıcıdır, ama metaller yine de ne olursa olsun her zaman iyi iletkenlerdir.

E) Bazı diğer sözde bariz metaller yalıtıcıdır ve bunun nedenleri iyi anlaşılır, ama metaller yine de her ne olursa olsun her zaman iyi iletkenlerdir.

48-53. sorularda, verilen Türkçe cümleye anlamca en yakın İngilizce cümleyi bulunuz.

48. Son yıllarda yaşanan uzun süreli kuraklık koşullarının, rekor kıran ısının, devam eden orman yangınlarının ve sık, daha aşırı fırtınaların, insanların atmosfere karbondioksit ilavesinden kaynaklanan artan küresel sıcaklıkların doğrudan bir sonucu olduğu giderek açık hale geliyor.

A) It can be increasingly clear that the prolonged drought conditions, record-breaking heat, sustained wildfires, and more frequent extreme storms experienced in recent years are an indirect result of global temperatures brought on by humans' addition of carbon dioxide to the atmosphere.

B) It is increasingly clear that the prolonged drought conditions, record-breaking heat, sustained wildfires, as well as more extreme storms being experienced at present are a direct result of rising global temperatures which humans' addition of carbon dioxide to the atmosphere brought on.

C) It is increasingly clear that the prolonged drought conditions, record-breaking heat, sustained wildfires, and frequent, more extreme storms experienced in recent years are a direct result of rising global temperatures brought on by humans' addition of carbon dioxide to the atmosphere.

D) It is increasingly clear that the prolonged drought conditions, record-breaking heat, sustained wildfires, except frequent, more extreme storms, which humanity has experienced in recent years are a direct result of rising global temperatures brought on by humans' addition of carbon dioxide to the atmosphere.

E) It is increasingly clear that the severe drought conditions, record-breaking heat, prolonged wildfires, and more frequent, extreme storms of recent years are a direct result of rising global temperatures that humans' addition of carbon dioxide to the atmosphere brought on.

49. Son birkaç on yılda, büyük ölçüde insan müdahalesinden dolayı birçok tür yok olmaya sürüklendi.

A) In the past couple of decades, several species may have been driven to extinction due, in part, to human interference.

B) In the past couple of decades, human interference has, in large part, driven several species to extinction.

C) In the past couple of decades, majority of species, in large part, exposed to human interference have been driven to extinction.

D) In the past couple of decades, several species have been driven to extinction thanks, in large part, to human interference.

E) In the past couple of decades, human interference must have, partially, driven most species to extinction.

50. 1672'de Danimarkalı gökbilimci Tycho Brahe (1546-1601), Cassiopeia takımyıldızında, bugün gökbilimcilerin bir "süpernova" olarak adlandırdığı şey olan parlak yeni bir yıldız keşfetti.

A) In 1672, the Danish astronomer Tycho Brahe (1546–1601) discovered a bright new star in the constellation Cassiopeia, which was what astronomers today call a “supernova”.

B) In 1672, a bright new star located in the constellation Cassiopeia, which was called a “supernova” by astronomers today, was discovered by the Danish astronomer Tycho Brahe (1546–1601).

C) In 1672, the Danish astronomer Tycho Brahe (1546–1601) would discover a bright new star named the constellation Cassiopeia, which was a “supernova” as astronomers today call it.

D) In 1672, a bright new star in the constellation Cassiopeia, which was what astronomers today call a “supernova”, was discovered by the Danish astronomer Tycho Brahe (1546–1601).

E) In 1672, the Danish astronomer Tycho Brahe (1546–1601) was able to discover a bright new star in the constellation Cassiopeia, which astronomers today call a “supernova”.

51. Bazı tartışmalar, erken tektonik süreçlerin şu anda işleyenlere benzer olup olmadığı veya önemli ölçüde farklı olup olmadığı üzerine odaklanmaktadır.

A) Most debate should centre on whether early tectonic processes were similar to those currently explained, or if they were actually different.

B) Some debate has centred on whether early tectonic processes were considerably different, apart from whether they were similar to those currently operating.

C) Much debate centres on whether early tectonic processes were similar to those currently operating, and if they were so, how different they were.

D) Some debate centres on whether early tectonic processes were similar to those currently operating, or if they were considerably different.

E) Some debate is centring upon whether the earliest tectonic processes were considerably similar to those currently operating, or if they were different.

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52. Astrofizikçiler ve kozmologlar, tıpkı büyük patlama teorisinin öne sürdüğü gibi, mevcut evrenin yoğun, neredeyse özelliiksiz bir sıcak gazdan evrimleştiği görüşünü güçlü bir şekilde destekleyen üç ölçülebilir işarete sahiptir.

A) Astrophysicists and cosmologists have three measurable signatures that strongly support the notion that the present universe evolved from a dense, nearly featureless hot gas, just as big bang theory suggests.

B) Both astrophysicists and cosmologists have three measurable signatures that properly support the notion that the present universe evolved from a dense and featureless hot gas, unlike what big bang theory suggests.

C) Astrophysicists and cosmologists have three measurable signatures in total that firmly support the notion that the present universe may have evolved from a dense, but nearly featureless hot gas, just as big bang theory suggests.

D) Astrophysicists and cosmologists have three signatures that strongly support the measurable notion that the present universe evolved from a nearly featureless dense hot gas, as big bang theory suggests.

E) Astrophysicists and cosmologists have three available measurable signatures which will strongly support the present notion that the universe evolved from a dense, nearly featureless hot gas, unlike what big bang theory suggests.

53. Kablosuz iletişim fiziksel olarak görüş hattıyla sınırlıdır, ki bu örneğin bir radyo veya televizyon alıcısının ufku ötesinde bulunan bir vericiden yayın alamadığı anlamına gelir.

A) A radio or television receiver cannot obtain broadcasts from a transmitter that lies beyond the horizon, which means that, for example, wireless communication is physically limited to line of sight.

B) Wireless communication is physically limited to line of sight, which, in other words, means that a radio or television receiver will not obtain broadcasts of the transmitter that lies beyond the horizon.

C) Wireless communication is physically limited to line of sight, meaning, for example, that a radio or television receiver cannot obtain broadcasts from a transmitter that lies beyond the horizon.

D) A radio or television receiver cannot obtain broadcasts from a transmitter that lies beyond the horizon since, for example, wireless communication is physically merely limited to line of sight.

E) Wireless communication means that it is physically limited to line of sight; for example, a radio or television receiver cannot obtain broadcasts from the transmitters that lie beyond the horizon.

54-59. sorularda, boş bırakılan yere, parçada anlam bütünlüğünü sağlamak için getirilebilecek cümleyi bulunuz.

54. Discovered in 1741 by German naturalist Georg W. Steller, Steller's sea cows once inhabited the near-shore areas of the Komandor Islands in the Bering Sea. Much larger than present-day manatees and dugongs, Steller's sea cows reached a length of 9–10 meters (over 30 feet) and weighed around 10 metric tons (22,000 pounds). ----. This made them easy targets for the harpoons of Russian seal hunters, who prized them as a source of meat on long sea journeys. Killing was often wasteful and the species was exterminated by 1768, less than 30 years after it was first discovered. No preserved specimens exist today.

- A) The quick disappearance of this 30-foot animal helped to usher in the modern science of human-caused extinctions
- B) These massive, docile animals floated at the surface of the coastal waters but unfortunately had little ability to submerge
- C) Most of these giants died at the by the end of the last Ice Age, some 14,000 years ago
- D) Unlike those two species, they were adapted to living in frigid Arctic waters
- E) Whether this wave of extinctions was caused by climate change, or overhunting by humans remains a subject of intense debate

55. In our modern society, almost everything uses the Hindu-Arabic number system, which we ascribe to the Hindus of more than a millennia ago. We are quite happy with it, and the number base of ten works fine and there is even a correlation between it and the number of fingers on our two hands. ----. These calculations are performed by computers, and they do not count on their circuits, or they would have to use a very large number base. They prefer calculations in base 2, as a number can then be represented easily by switching circuits on and off. Many computations can also easily be made by switching the right circuits and this makes for a great model of arithmetic calculation for a computer

- A) For example, people who work with computers, known as programmers, prefer to deal with numbers in base 8 and 16
- B) The Hindu number system as we know it today can be attributed to two men: the great hindu astronomer Âryabhata and his pupil Bhaskara I
- C) However, this made calculations much simpler than any previous system could have provided
- D) In the past, around 400 C.E. the Maya Indians develop their number system in conjunction with growing interest in the calendar
- E) Yet, there are an exceeding number of calculations performed in our society in three other bases

56. ----. It can support the mitigation of climate change, for instance, by helping reduce greenhouse gas emissions within various applications. It can support adapting to a changing climate. AI can even support climate science itself. However, it can also be used to harm the climate. To avoid that, AI applications should be developed in collaboration and ongoing exchange with the communities that will use or are otherwise affected by the technology to avoid unforeseen impacts and drawbacks.

A) Recently, the energy consumption of Artificial Intelligence (AI) systems, specifically machine learning, has come under scrutiny

B) Any application of Artificial Intelligence (AI) in climate change mitigation must ensure that environmental impacts are not externalised onto the most marginalised populations

C) Artificial Intelligence (AI) and deep learning can help climate researchers and innovators test out their theories and solutions

D) Artificial Intelligence (AI) provides powerful tools to tackle climate change in various applications – but it is not a silver bullet

E) Artificial Intelligence (AI) communities will need to follow the steps of computer scientists who have a long history of investigating sustainable computing

57. Birds see more colours than humans in several ways. ----. This means birds can determine subtle differences between similar shades of colour, gradations that human eyes are not able to discern. The cells in the eye responsible for colour detection, the cones, are in the retina, and birds have four types of cones rather than the three humans have. The exact number of cones varies in each bird species but is typically higher than humans and other mammals.

A) Perceiving different colours is less crucial for nocturnal birds, however

B) This type of filtering or polarization is also useful for pelagic birds, allowing them to see deeper into the water

C) Not only are birds able to perceive the familiar rainbow of colours as well as parts of the ultraviolet (UV) spectrum that are invisible to human eyes, but they also have better visual acuity

D) Many birds that are most active at night have a greater number of rod cells in their eyes instead, which allows them to capture more light and see better in low light conditions

E) This wavelength filtering allows birds to more easily see contrasts in their surroundings, perhaps seeing through the camouflage of insects, prey, or other birds

58. Modern portable devices are the result of great progress in miniaturization and wireless communications. Now that these devices can be made even smaller and lighter without loss of functionality, it is likely that a great part of next-generation electronics will revolve around wearable technology. However, for wearables to truly transcend portables, we will need to rethink the way in which devices communicate with each other as "wireless body area networks". The usual approach of using an antenna to radiate signals into the surrounding area while hoping to reach a receiver will not cut it for wearables. But, this method of transmission not only demands a lot of energy but can also be unsafe from a cybersecurity standpoint. ----.

- A) Therefore, one promising approach is "human body communication", which involves using the body itself as a medium to transmit signals
- B) After all, hearing aids are but one of all modern head-worn wireless devices
- C) Moreover, the human body itself also constitutes a large obstacle because it absorbs electromagnetic radiation and blocks signals
- D) The main idea is that some electric fields can propagate inside the body very efficiently without leaking to the surrounding area
- E) Such hearing aid devices come in pairs -- one for each ear -- and greatly improve intelligibility and sound localization for the wearer

59. Sunflower sea stars, the world's second largest sea star species, can grow to be three feet wide and weigh up to 13 pounds. Adults are multi-coloured, have up to 24 arms, and more than 15,000 tubular feet that allow them to scoot across the seafloor. ---- . But, sunflower sea stars are the victim of a massive die-off that began in 2013 and afflicted all 20 known species of sea star (previously called starfish) endemic to North America's West Coast. Suddenly, sea stars from Alaska to Mexico developed lesions, turning into goo and dying within days.

- A) Adept and swift predators, sea stars swallow their prey—mainly urchins and bivalves such as mussels—spitting out the shells or other indigestible bits
- B) The culprit, sea star wasting disease, is little understood, and scientists are unsure if it is a contagion activated by warming waters
- C) Unfortunately, without sea stars, an explosion of sea urchins has knocked the ecosystem off balance recently
- D) To counter this disaster, scientists began trying to breed the critically endangered sunflower sea star in captivity
- E) For example, the local extinction of sunflower sea stars has led to an explosion of their primary prey, the Pacific purple sea urchin

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

60. (I) Primitive and Prehistoric number systems are number systems that have been developed when there has been some need to express magnitudes. **(II)** Examples of these are what is known as body-count, the “bundle-of-sticks” method, tally sticks, 2-count, and neo-2-count. **(III)** The “bundle-of-sticks” method cannot be used to express anything but quantities, and can perhaps not even be considered a way to count. **(IV)** These systems were exceedingly primitive and limited in applicability. **(V)** However, they have been the beginning of counting in almost every civilization, and many are still used by many of the primitive—in the sense of development, not ability to reason— cultures on Earth today.

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

61. (I) Solar physicists have long viewed the rotation of sunspots as a primary generator of solar flares -- the sudden, powerful blasts of electromagnetic radiation and charged particles that burst into space during explosions on the sun's surface. **(II)** Their turning motion causes energy to build up that is released in the form of flares. **(III)** But a team of scientists now claims that flares in turn have a powerful impact on sunspots, the visible concentrations of magnetic fields on the sun's surface, or photosphere. **(IV)** The researchers argue that flares cause sunspots to rotate at much faster speeds than are usually observed before they erupt. **(V)** For example, understanding the Sun's magnetic dynamo could help predict solar weather, such as potentially dangerous geothermal storms, solar flares and sunspots.

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

62. (I) Early attempts to explain volcanic activity sound much like myths to modern day scientists. **(II)** The ancient Greeks believed volcanoes came from the release of compressed air inside mountains, much like a monstrous belch. **(III)** Nevertheless, myths can provide meaning and the rituals they inspire can provide comfort and a sense of security. **(IV)** The Romans took a more engineering approach in their explanations: they blamed eruptions on chemical reactions and underground compounds catching fire. **(V)** They were trying to attribute what they saw to natural processes rather than to extra-terrestrial or godly activity.

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

63. (I) Silicon is neither metal nor non-metal; it is a metalloid, an element that falls somewhere between the two. **(II)** The category of metalloid is something of a grey area, with no firm definition of what fits the bill, but metalloids generally have properties of both metals and non-metals. **(III)** They look metallic, but conduct electricity only intermediately well, so it is a semiconductor, meaning that it does conduct electricity. **(IV)** That is, when the Apollo 11 astronauts landed on the moon in 1969, they left behind a white pouch containing a silicon disc slightly bigger than a silver dollar. **(V)** Unlike a typical metal, however, silicon gets better at conducting electricity as the temperature increases while metals get worse at conductivity at higher temperatures.

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

64. (I) From our vantage point on Earth, the Milky Way looks like a band of diffuse light that arcs across the night-time sky. **(II)** That means even if you could travel at the speed of light (300,000 kilometres, or 186,000 miles, per second), it would take you about 25,000 years to reach the middle of the Milky Way. **(III)** This is where the English name comes from: The Romans called it Via Lactea and envisioned it as a band of spilled milk. **(IV)** Astronomers and philosophers debated the nature of the Milky Way until Galileo Galilei first observed it with a telescope and found that the light of the Milky Way comes from innumerable distant stars. **(V)** The stars themselves are too far away to see all of them individually, but their combined light gives the familiar band.

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

65. (I) While not necessarily an opposite to applied mathematics, pure mathematics is driven by abstract problems, rather than real world problems. **(II)** Since the beginning of recorded history, mathematic discovery has been at the forefront of every civilized society, and in use in even the most primitive of cultures. **(III)** The needs of math arose based on the wants of society. **(IV)** The more complex a society, the more complex the mathematical needs. **(V)** Primitive tribes needed little more than the ability to count, but also relied on math to calculate the position of the sun and the physics of hunting.

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

66-68. soruları aşağıdaki parçaya göre cevaplayınız.

Cyanobacteria are aquatic and photosynthetic, that is, they live in the water, and can manufacture their own food. Because they are bacteria, they are quite small and usually unicellular, though they often grow in colonies large enough to see. They have the distinction of being the oldest known fossils, more than 3.5 billion years old, in fact! It may surprise you then to know that the cyanobacteria are still around; they are one of the largest and most important groups of bacteria on earth. Many Proterozoic oil deposits are attributed to the activity of cyanobacteria. The cyanobacteria have also been tremendously important in shaping the course of evolution and ecological change throughout earth's history. The oxygen atmosphere that we depend on was generated by numerous cyanobacteria during the Archaean and Proterozoic Eras. Before that time, the atmosphere had a very different chemistry, unsuitable for life as we know it today. The other great contribution of the cyanobacteria is the origin of plants. The chloroplast with which plants make food for themselves is actually a cyanobacterium living within the plant's cells. Because they are photosynthetic and aquatic, cyanobacteria are often called "blue-green algae". This name is convenient for talking about organisms in the water that make their own food, but does not reflect any relationship between the cyanobacteria and other organisms called algae.

66. It is possible to see Cyanobacteria ----.

- A) only if examined under the microscope
- B) as long as they maintain their blue-green colour
- C) if one can distinguish them from algae
- D) for just scientists with required devices, not for the ordinary eye
- E) only when grown in vast colonies

67. It can be inferred from the passage that ----.

- A) Cyanobacteria could have disappeared but for the oxygen atmosphere
- B) without Cyanobacteria, life as we know would not have emerged
- C) tree forests are a lot more crucial than Cyanobacteria
- D) Cyanobacteria must be the biggest fuel source of modern world as oil
- E) one can find Cyanobacteria and its any variant only in the water

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

- A) Contributions of Cyanobacteria to Proterozoic Oil Deposits
- B) Aquatic and Photosynthetic Cyanobacteria in Comparison with Blue-Green Algae
- C) Architects of earth's atmosphere: Cyanobacteria
- D) Self-sufficiency of Cyanobacteria and its Reasons
- E) The Effects of Cyanobacterial Activity during the Archaean Era

69-71. soruları aşağıdaki parçaya göre cevaplayınız.

It was back in 1610 when Galileo Galilei made the first telescopic observation of Mars and ever since, the fascination with the red planet for scientific research has grown astronomically. Over the course of the next century, astronomers have discovered many features of the planet ranging from its rotation and tilt to polar ice caps and the dark patch on its surface known as Syrtis Major Planum, now known to be a large volcanic province, visible in small telescopes. Like Earth, Mars, the fourth rock from the sun and Earth's nearest neighbour, formed more than 4.5 billion years ago from minerals and elements, the building blocks of terrestrial planets. It is a great science laboratory for understanding the history of the solar system and how planets, including Earth, were formed and transformed over billions of years. According to NASA, the geological processes evident on Mars now or in the past include impact cratering, wind-driven and river transport of sediment, glaciers, condensation, and sublimation of water, carbon dioxide ice, dust storms and landslides. Still, there is much to learn about Mars and that treasure trove of the unknown is where scientists at the state's only Carnegie Research 1 institution – The University of New Mexico – are helping to make an impact – a big impact.

69. It can be understood from the passage that Mars ----.

- A) had been a focus of interest even before its first observation via telescopes
- B) has incrementally captivated the science circles
- C) and the Earth are the rock planets unlike all other planets
- D) contains over 4.5 billion different minerals and elements
- E) has disclosed none of its planetary features yet

70. According to the passage, how does the writer feel about the investigations of The University of New Mexico?

- A) critical
- B) indifferent
- C) disappointed
- D) optimistic
- E) sceptical

71. The writer of the passage uses "great science laboratory" words for Mars because ----.

- A) Mars offers an appropriate setting for researchers to discover new unknown planets
- B) there is a chance to comprehend the history of the solar system, except the Earth, thanks to Mars
- C) the research conducted on Mars officially proved that this planet is habitable
- D) there are actual laboratory environments simulating Mars on Earth
- E) Mars can lead to the understanding of the way our planet formed and changed in time

72-74. soruları aşağıdaki parçaya göre cevaplayınız.

Common assumptions notwithstanding, rare species can play unique and essential ecological roles. After studying two, scientists have demonstrated that, though these species are found on all continents, they are more threatened by human pressures than ecologically common species and will also be more impacted by future climate change. Thus, they are in double jeopardy. The researchers' findings show that conservation programmes must account for the ecological rarity of species. It has long been thought that rare species contribute little to the functioning of ecosystems. Yet recent studies have discredited that idea: rarity is a matter not only of the abundance or geographical range of a species, but also of the distinctiveness of its ecological functions. Because these functionally distinct species are irreplaceable, it is essential we understand their ecological characteristics, map their distributions, and evaluate how vulnerable they are to current and future threats. Using two databases that collect information on the world's terrestrial mammals (4,654 species) and birds (9,287 species), scientists divided the earth's surface into 50 × 50 km squares and determined the number of ecologically rare species within each. They showed that ecological rarity among mammals is concentrated in the tropics and the southern hemisphere, with peaks on Indonesian islands, in Madagascar, and in Costa Rica. Species concerned are mostly nocturnal frugivores, like bats and lemurs, and insectivores, such as small rodents.

72. What is the mainstream misconception as to rare species in the passage?

- A) Rare species do not contribute to the ecosystems.
- B) Rare species always play a fundamental part in ecological balance.
- C) Conservation programs all the time give priority to rare species.
- D) Being rare has long been thought to be a unique contribution to the ecosystems.
- E) Rare species have been deemed to be irreplaceable.

73. Given that the extinction of rare species, which are different in terms of their functions, is irreversible, we should ---- .

- A) disregard databases which have information on the terrestrial mammals as well as birds
- B) take no notice of the rarity so that conservation programs can function properly and adequately
- C) discern their ecological traits, frame their distributions, and assess their vulnerability to perils
- D) investigate the geographical range of a species to find out where to bring together them to protect all together
- E) maintain the current protective measures as they are, rather than taking new action

74. It is stated in the passage that ----.

- A) ecological rarity among mammals is low in the tropics and the southern hemisphere
- B) scientists divided the earth's surface into certain squares, although it did not produce significant results
- C) rarity of species is only a matter of being distinctive in ecological functions
- D) majority of rare species are night-living and insect-eating ones
- E) ecologically common species are being threatened by human pressures more often than the rare ones

75-77. soruları aşağıdaki parçaya göre cevaplayınız.

If you follow autonomous drone racing, you likely remember the crashes as much as the wins. In drone racing, teams compete to see which vehicle is better trained to fly fastest through an obstacle course. But the faster drones fly, the more unstable they become, and at high speeds their aerodynamics can be too complicated to predict. Crashes, therefore, are a common and often spectacular occurrence. But if they can be pushed to be faster and more **nimble**, drones could be put to use in time-critical operations beyond the race course, for instance to search for survivors in a natural disaster. Now, aerospace engineers at MIT have devised an algorithm that helps drones find the fastest route around obstacles without crashing. The new algorithm combines simulations of a drone flying through a virtual obstacle course with data from experiments of a real drone flying through the same course in a physical space. The researchers found that a drone trained with their algorithm flew through a simple obstacle course up to 20 percent faster than a drone trained on conventional planning algorithms. "These kinds of algorithms are a very valuable step toward enabling future drones that can navigate complex environments very fast," adds Sertac Karaman, associate professor of aeronautics and astronautics and director of the Laboratory for Information and Decision Systems at MIT.

75. According to the passage, drone crashes are usual in drone racing through an obstacle course because ----.

- A) the faster drones race, the more feverish the rivalry grows, leading teams to cheat
- B) the aerodynamics is controllable only at low speeds
- C) teams deliberately call for this spectacular incident to happen
- D) time-critical operations within the races may be perilous
- E) when drones fly faster, it becomes hard to foresee their aerodynamics

76. The underlined word in the passage 'nimble' is closest in meaning to ----.

- A) suspicious
- B) agile
- C) weak
- D) desperate
- E) impractical

77. What could be understood from the passage?

- A) As there are so many crashes in drone racing, drones are not offering hope for future use.
- B) Researchers have come up with an algorithm making drones find the fastest route with the least obstacles.
- C) With more speed and less crashes, drones are likely to be utilized in disaster environments.
- D) Considering the progress in drone flying, devising algorithms must be too simple.
- E) Simulations of a drone flying through a virtual obstacle course can mislead the researchers in real drone flying experiences.

78-80. soruları aşağıdaki parçaya göre cevaplayınız.

Brain–computer interface (BCI) technology holds promise for providing functional support systems for people with neurological disorders and other disabilities. In experimental laboratory settings, BCIs have allowed patients to communicate with researchers and control external devices—all by simply imagining the actions of different body parts. BCIs work by reading signals from the brain and using machine learning algorithms to translate the signals into an external action, such as moving a cursor on a screen or manipulating a robotic limb. The most successful BCIs collect brain signals with electrodes implanted in the brain. Since this method requires surgery and involves considerable risks, a major goal in the field is to find a non-invasive alternative. However, BCI systems that use non-invasive methods (such as electrodes placed on top of the scalp) receive signals disturbed by noise, leading to lower resolution and less precise control. Now, a new system developed by researchers at Carnegie Mellon University, in collaboration with the University of Minnesota, has been shown to overcome this problem. In a 2019 paper in *Science -Robotics*, the researchers presented an innovative, non-invasive BCI for continuous robotic arm control. This work represents an important step in non-invasive BCIs. Someday, they could become assistive technologies that aid everyone, much like smartphones.

78. It is clearly stated in the passage that brain–computer interface (BCI) technology ----.

- A) has been tested in experimental laboratory setting for long with little promising progress
- B) may provide people with neurological disorders and other disabilities with functional support systems
- C) will help disabled people do tasks such as moving a cursor on a screen, eradicating disability across the world
- D) operates by predicting what a person wishes to do and translating these predictions into external action
- E) has already enabled patients to communicate with other people and control external devices outside of the laboratories

79. Even if electrodes implanted in the brain collects the signals best, ----.

- A) this method should be still implemented together with a non-invasive alternative
- B) translating these signals into external activity remains tricky
- C) it is an unwanted type of BCI, being severely risky due to surgery
- D) electrodes placed on top of the scalp can produce high quality results
- E) this method is still disturbed by external noise

80. The author of the passage is ---- about the future of the non-invasive BCIs.

- A) impatient
- B) worried
- C) confused
- D) sarcastic
- E) optimistic

TEST BİTTİ.

CEVAPLARINIZI KONTROL EDİNİZ.

CEVAP ANAHTARI

1.A	21.E	41.D	61.E
2.D	22.B	42.D	62.A
3.C	23.A	43.B	63.D
4.B	24.C	44.C	64.B
5.C	25.A	45.A	65.A
6.A	26.C	46.E	66.E
7.D	27.A	47.B	67.B
8.C	28.E	48.C	68.C
9.D	29.D	49.D	69.B
10.E	30.E	50.A	70.D
11.A	31.E	51.D	71.E
12.E	32.D	52.A	72.A
13.D	33.C	53.C	73.C
14.C	34.B	54.B	74.D
15.A	35.D	55.E	75.E
16.D	36.C	56.D	76.B
17.D	37.A	57.C	77.C
18.B	38.D	58.C	78.B
19.E	39.B	59.A	79.C
20.A	40.E	60.C	80.E