

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

1. Scientists estimate that bio scientific research is responsible for 1.8 per cent of total global plastic production waste, which weighs the ---- of 67 cruise ships a year.
- A) magnitude B) consequence
C) scrutiny D) equivalence
E) divergence
2. When a fish population is threatened by climate change, one ---- to helping the species cope is to make fishing management more conservative and lower the allowable catch.
- A) impact B) association
C) approach D) expenditure
E) variation
3. Bipedalism, or walking on two legs, marks a ---- difference between humans and other apes and is considered a defining characteristic of human ancestors.
- A) scarce B) fierce
C) diligent D) crucial
E) proper
4. A journey to Mars would expose astronauts to a / an ---- high amount of radiation during the round trip, even assuming they go when it is relatively safer than at other times.
- A) alternatively B) desperately
C) especially D) reflectively
E) hazardously
5. Researchers ---- some of the questions that surround massive and enigmatic black holes by using new, high-powered simulations.
- A) terminate B) swallow
C) address D) destabilize
E) incorporate
6. Scientists advising governments on the best ways to ---- electricity demand propose that nuclear energy should replace fossil fuels.
- A) look up to B) run out of
C) put up with D) get on with
E) cut down on
7. While most climate scientists agree that hurricane severity, at least in terms of rainfall, will increase as the planet ----, the future frequency of hurricanes ----uncertain.
- A) had warmed / will remain
B) warms / remains
C) warmed / remained
D) was warming / would remain
E) has warmed / had remained
8. Until recently, physicists ---- the quantum mechanics only through thought experiments as any attempt to observe them directly ---- them to lose their mysterious quantum properties.
- A) could explore / caused
B) may explore / causes
C) might have explored / had caused
D) should have explored / has caused
E) have explored / had been causing
9. Potential applications to emerge out of optical engineering range ---- windows transforming into mirrors ---- high-speed computers running on light.
- A) with / beneath B) over / by
C) from / to D) in / on
E) against / within
10. The expansion of renewable energies is placing increasing demands ---- the power grids since precise forecasts of the amount of solar power to be fed into the grid is key ---- effective management.
- A) beyond / at B) on / to
C) for / upon D) over / in
E) from / of

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

11. There is a consensus ---- scientists that the Earth's climate is warming, largely ---- greenhouse gas emissions caused by human activity.

- A) on / by B) with / for
C) over / at D) among / through
E) of / into

12. ---- biological tissue is exposed to radiation, water molecules are broken apart by high-energy radiation, and this triggers harmful reactions in the organism.

- A) Unless B) Whether
C) Whereas D) When
E) Suppose that

13. Detecting light beyond the visible red range of our eyes is impossible, ---- infrared light carries too little energy to be detected by human eyes.

- A) although B) as soon as
C) so that D) because
E) just as

14. 3D manufacturing machinery has advanced significantly over time; ----, the necessary software to run these machines often lags behind.

- A) therefore B) however
C) for instance D) similarly
E) otherwise

15. ---- the corals are flourishing again half a century after the last earth-shattering atomic blast shook the Pacific atoll of Bikini, some coral species appear to be locally extinct.

- A) Until B) Though
C) As long as D) Given that
E) Just as

16. Classic computers use binary values to perform; -- --, our brain cells can use more values to operate, making them more energy-efficient than computers.

- A) otherwise B) to illustrate
C) therefore D) by contrast
E) likewise

17. Overwhelming majority of the shareholders of the companies in the UK voted ---- the government's plan to reduce greenhouse gas emissions to net zero by 2039.

- A) in excess of B) in favour of
C) compared to D) in spite of
E) on behalf of

18. Providing wind turbines with a stable source of wind power improves efficiency ---- supplying the grid with a consistent amount of energy.

- A) despite B) with the exception of
C) as well as D) instead of
E) by virtue of

19. Scientists and engineers have developed sodium batteries, replacing ---- lithium ---- cobalt in lithium-ion batteries with cheaper, harmless sodium.

- A) so / that B) both / and
C) such / that D) as / as
E) whether / or

20. A chemical category can be defined as a group of chemicals ---- properties in some respects, such as human health or environmental fate, are likely to be similar.

- A) when B) which
C) whom D) whose
E) where

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TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

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

Young planetary systems generally experience extreme growing pains, (21)---- collisions with infant bodies and thus fusing together to form progressively larger planets. In our own solar system, the Earth and Moon are thought to be products of this type of a giant impact. (22)---- astronomers conclude that such smash-ups should be commonplace in early systems, they have been difficult to observe around other stars. Now astronomers have discovered evidence of a giant impact that occurred in a nearby star system. The star, named HD 172555, is estimated (23)---- 23 million years ago, and scientists have suspected that its dust bears traces of a recent collision. The team has observed further evidence of a giant impact around the star. They determined that the collision likely occurred (24)---- a roughly Earth-sized terrestrial planet and a smaller impactor at least 200,000 years ago. Crucially, they detected gas, indicating that such a high-speed impact likely blew away part of the larger planet's atmosphere, a (25)---- event that would explain the observed gas and dust around the star.

21.

- A) on behalf of B) such as
C) unlike D) in case of
E) aside from

22.

- A) Although B) Just as
C) If D) Once
E) Given that

23.

- A) to form
B) being formed
C) to have formed
D) forming
E) to be formed

24.

- A) between
B) along
C) across
D) towards
E) beyond

25.

- A) vulnerable
B) resilient
C) susceptible
D) dramatic
E) consistent

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

Metal halide perovskites, a group of crystalline materials, have been under intense investigation over the last decade, (26)---- the remarkable rise in their performance in solar cells. The most efficient devices, fabricated in the so-called 'standard architecture' commonly include processing steps performed (27)---- high temperature, thus increasing their energy payback time and limiting the possibility to integrate them in flexible and wearable electronics. An alternative device architecture, termed as the 'inverted architecture', eliminates the need for high-temperature processing, but (28)---- a lower photovoltaic efficiency at the same time. Now researchers have developed a (29)---- method to significantly improve the efficiency of inverted architecture solar cells. The method is based on a modification of the interfaces of the active layer by introducing small amounts of organic halide salts at both the bottom and the top of the active layer. (30)---- such organic halide salts led to the suppression of microstructural flaws, the team has achieved a power conversion efficiency of 23.7%, the highest reported to date for an inverted architecture perovskite solar cell.

26.

- A) due to B) as opposed to
C) rather than D) irrespective of
E) instead of

27.

- A) over B) by
C) at D) through
E) without

28.

- A) led to
B) had led to
C) must lead to
D) has led to
E) leads to

29.

- A) compulsory
B) perilous
C) selective
D) desperate
E) novel

30.

- A) Since
B) Even if
C) Whereas
D) Provided that
E) Though

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

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

31. ----, they require more financial assessments due to their high uncertainty and risk.

- A) As construction delays, which can run into years or even decades, are rare in nuclear projects
- B) If decision makers focus on low-risk technologies such as wind instead of nuclear plants
- C) Given that all contractors promise to complete nuclear plant constructions on time
- D) Because technologies used and experience gained in nuclear projects bring costs down
- E) Since nuclear plant construction projects are mega-projects

32. While robots can deliver food on a college campus and achieve excellent scores on a golf course, ----.

- A) researchers now incorporate certain social interactions into a framework for robotics
- B) this enables machines to understand what it means to help or hinder one another
- C) even the most sophisticated ones cannot perform basic social interactions critical to human life
- D) enabling robots to exhibit social skills could lead to more positive human-robot interactions
- E) a robot with these capabilities could help create a more caring environment for elderly individuals

33. ---- even if global warming is restricted to the 2° Celsius commonly perceived as safe.

- A) Almost 25 per cent of species inhabit Coral reefs which provide crucial services for the oceans
- B) Coral reefs have all the characteristics to be able to rapidly evolve new thermal tolerances
- C) The famous colour of Coral reefs stem from the symbiotic relationship with a special type of algae
- D) Coral reefs face severe challenges such as more intense mass coral bleaching events
- E) It is possible to save Coral reefs from the detrimental impacts of ocean acidification

34. Because gravity makes it difficult to see the details of how crystals form, ----.

- A) the earth-grown crystals are subjected to the same molecular effects as those grown in space
- B) models that are used to manufacture tailor-made crystals may be suitable for specific applications
- C) making them in space where there is almost no gravity yields better information about their formation
- D) they enable engineers to design superior alloys for a wide range of applications used in space
- E) The ultimate goal is to be able to design better materials without the need of elaborate space research

35. While quantum computing is still in its infancy as a promising, new technology, ----.

- A) some optical computers may use classical methods to solve problems using electromagnetic waves
- B) sophisticated computers already use it to solve the world's most challenging problems in a matter of seconds
- C) the computational functionality a quantum computer is based on the laws of quantum mechanics
- D) it is possible to create a quantum computer that essentially operates exactly like a traditional computer
- E) this additional level of complexity means that quantum computers could eventually far surpass current computers

36. ----, issues such as cleaning space debris are becoming a more serious concern to scientists.

- A) Since engineers hope to manipulate orbiting space debris with the use of magnets
- B) As the number of all sorts of spacecraft launched into the space increases
- C) Though they allow space agencies to clear out space junk or repair satellites
- D) When the metallic debris is subjected to a changing magnetic field
- E) Because robots could one day move the debris further out into space without touching it

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37. ----, yeast is used in a great number of experiments for studies on evolution.

- A) Although its evolution is usually thought to be a very slow process
- B) Because it can reproduce and even evolve in just a matter of hours
- C) While species yeasts can either adapt to environmental change or become extinct
- D) Even if there has been theoretical work regarding the issue of the evolution of yeast
- E) Though it is more likely to adapt quickly through evolutionary rescue

38. ----, climate engineering may not be able to reverse global warming caused by growing greenhouse emissions.

- A) Unless a way is found to slow down the current rate at which they increase
- B) When aerosol concentrations in the stratosphere are increased for climate engineering purposes
- C) Whereas climate engineering could provide only temporary relief in extreme situations
- D) Since it is possible to slow down and even temporarily stop the progression of global warming
- E) As long as aerosol particles remain efficient in cooling down the climate

39. Continents have split, drifted and merged again many times throughout Earth's history, ----.

- A) unless an explanation for the breaking patterns of continental plates is put forward
- B) even though continents sometimes break along pre-existing lines of weakness
- C) thus, currently, the Earth is in a breakup cycle in which the Atlantic and Indian oceans are opening
- D) whereas there have been six major continental assembly and breakup events in Earth's history
- E) however, geologists have yet to understand the mechanism behind these moves

40. It is estimated that about 80% of the energy from tides are located in areas of over 40 meters of depth; ----.

- A) to illustrate, researchers are working on designs to optimise the costs
- B) therefore, current devices need to be improved to work deeper underwater
- C) otherwise, the final design of devices to generate energy will never become viable
- D) that is, the new devices pose the problem of the high cost of manufacturing, installation and maintenance
- E) however, experts agree that the next step is the use of the energy from marine currents

41. Today's data storage devices can hold incredibly large amounts of data, ----.

- A) even if they can pack thousands of times more data than conventional chips
- B) unless the ever-growing demand for digital storage calls for devices with more capacity
- C) as density and durability move in opposite directions when it comes to data storage
- D) just as nanoscale electromechanical memory system presents various challenges
- E) though they will remain accessible for only a couple of decades

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

42. Earth's atmosphere has a unique ability to cleanse itself by way of invisible molecules in the air that act as minuscule clean-up crews.

- A) Dünya'nın atmosferi, havadaki küçük temizleme ekipleri halinde hareket eden görünmez moleküller sayesinde eşsiz bir şekilde kendini temizleyebilmektedir.
- B) Dünya'nın atmosferi, havadaki küçük temizleme ekipleri halinde hareket eden görünmez moleküller yoluyla eşsiz bir kendini temizleme yeteneğine sahiptir.
- C) Havadaki küçük temizleme ekipleri halinde hareket eden görünmez moleküller, Dünya'nın atmosferini eşsiz bir şekilde temizleme yeteneği ile donatılmıştır.
- D) Dünya'nın atmosferinde, havada küçük temizlik ekipleri olarak hareket edebilen, kendilerini temizleme konusunda eşsiz bir yeteneğe sahip görünmez moleküller vardır.
- E) Dünya'nın atmosferini eşsiz bir şekilde kendi kendini temizleyebilmesi, havadaki küçük temizleme ekipleri halinde hareket eden görünmez moleküller sayesinde.

43. Many physicists, prior to the 1950s, were reluctant to accept the idea that black holes are physical objects, consistent with the well-established laws of thermodynamics.

- A) Birçok fizikçinin 1950'lerden önce kabul etmeye isteksiz olduğu şey kara deliklerin köklü termodinamik yasalarıyla tutarlı fiziksel nesnelere olduğu fikriydi.
- B) Birçok fizikçi, 1950'lerden önce, kara deliklerin, köklü termodinamik yasalarıyla tutarlı fiziksel nesnelere olduğu fikrini kabul etmeye isteksizdi.
- C) Birçok fizikçi, 1950'lere kadar, köklü termodinamik yasalarıyla tutarlı fiziksel nesnelere olan kara deliklerin var olduğu fikrini kabul etmeye isteksizdi.
- D) 1950'lerden önce, kara deliklerin, köklü termodinamik yasalarıyla tutarlı fiziksel nesnelere olduğu fikrini kabul etmeye isteksiz birçok fizikçi vardı.
- E) Kara deliklerin köklü termodinamik yasalarıyla tutarlı fiziksel nesnelere olduğu fikri 1950'lerden önce birçok fizikçi tarafından kabul görmüyordu.

44. Solid-state batteries feature significant capacity for energy storage, but they typically encounter numerous problems that cause them to degrade over time and become less efficient.

- A) Enerji depolamaya dönük önemli bir kapasiteye sahip olan katı hal piller genellikle zamanla bozulmalarına ve daha az verimli olmalarına neden olan çok sayıda sorunla karşılaşılırlar.
- B) Katı hal pillerin, enerji depolamaya dönük önemli bir kapasiteleri vardır, ama genellikle zamanla bozulmalarından ve daha az verimli olmalarından kaynaklanan çok sayıda sorunla karşılaşabilmektedir.
- C) Katı hal piller, enerji depolamaya dönük önemli bir kapasiteye sahiptir, ancak genellikle zamanla bozulmalarına ve daha az verimli olmalarına neden olan çok sayıda sorunla karşılaşılırlar.
- D) Genellikle zamanla bozulmalarına ve daha az verimli olmalarına neden olan çok sayıda sorunla karşılaşan katı hal piller enerji depolamaya dönük önemli bir kapasiteye sahiplerdir.
- E) Genellikle zamanla bozulan ve daha az verimli olan katı hal piller, enerji depolamaya dönük önemli bir kapasiteye sahip olmalarına rağmen yine de çok sayıda sorunla karşılaşılırlar.

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45. Little is known about the weather at night on Venus, as the absence of sunlight makes it extremely difficult to obtain images.

- A) Güneş ışığının olmaması görüntü almayı son derece zorlaştırdığından, Venüs'ün gece hava durumu hakkında çok az şey biliniyor.
- B) Venüs'ün gece hava durumu hakkında çok az şey bilinmesinin nedeni, güneş ışığının olmamasının görüntü almayı son derece zorlaştırmasıdır.
- C) Güneş ışığının olmaması Venüs'ün gece hava durumu hakkında az şey bilinmesine yol açmakta ve görüntü almayı zorlaştırmaktadır.
- D) Güneş ışığının olmaması görüntü almayı son derece zorlaştırmaktadır, bu yüzden Venüs'ün gece hava durumu hakkında çok az şey biliniyor.
- E) Venüs'ün gece hava durumu hakkında çok az şey bilinmesi, güneş ışığının olmamasının görüntü almayı son derece zorlaştırmasından kaynaklanmaktadır.

46. Earth likely experienced much higher temperatures at various times in the distant past and will experience them again hundreds of millions of years from now as the sun continues to brighten.

- A) Uzak geçmişte farklı zamanlarda muhtemelen çok daha yüksek sıcaklıklar yaşamış olan Dünya bundan yüz milyonlarca yıl sonra da güneş parlamaya devam edeceği için bu sıcaklıkları tekrar yaşayacak.
- B) Dünya muhtemelen uzak geçmişte farklı zamanlarda çok daha yüksek sıcaklıklar yaşamış ve bundan yüz milyonlarca yıl sonra da yaşamaya devam edecektir, çünkü güneş giderek parlamaktadır.
- C) Bundan yüz milyonlarca yıl sonra güneş parlamaya devam ettikçe Dünya, muhtemelen uzak geçmişte farklı zamanlarda, şu anda yaşadığı sıcaklıklardan, çok daha yüksek sıcaklıklar yaşadı.
- D) Dünya muhtemelen uzak geçmişte farklı zamanlarda çok daha yüksek sıcaklıklar yaşadı ve bundan yüz milyonlarca yıl sonra güneş parlamaya devam ettikçe bu sıcaklıkları tekrar yaşayacak.
- E) Uzak geçmişte, farklı zamanlarda Dünya'da çok daha yüksek sıcaklıklar yaşandı ve bundan yüz milyonlarca yıl sonra da güneş parlamaya devam ettikçe bu sıcaklıkların tekrar yaşanması muhtemeldir.

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47. In spite of the advances in machine learning to help fight misinformation, scientists agree that human intelligence and news literacy still remain the first line of defence in stopping the spread of misinformation.

- A) Yanlış bilgiyle mücadeleye yardımcı olmak için makine öğrenimindeki ilerlemelere rağmen, bilim insanları insan zekâsı ve haber okuryazarlığının hala yanlış bilginin yayılmasını durdurmada ilk savunma hattı olmaya devam ettiği konusunda hemfikir.
- B) Makine öğrenimindeki ilerlemeler, yanlış bilgiyle mücadeleye yardımcı olmaktadır, ancak bilim insanları insan zekâsı ve haber okuryazarlığının hala yanlış bilginin yayılmasını durdurmada ilk savunma hattı olmaya devam ettiği konusunda hemfikir.
- C) Makine öğreniminde yanlış bilgiyle mücadeleye yardımcı olabilecek ilerlemeler sağlanmış olsa da, bilim insanları, insan zekâsı ve haber okuryazarlığının hala yanlış bilginin yayılmasını durdurmada ilk savunma hattı olduğunu düşünüyor.
- D) Yanlış bilgiye karşı sürdürülen mücadeleye yardımcı olmak için makine öğrenimindeki ilerlemelere rağmen, bilim insanları insan zekâsı ve haber okuryazarlığının hala yanlış bilginin yayılmasını durdurmada ilk savunma hattı olduğu fikrine katılmaktadır.
- E) Bilim insanları, insan zekâsı ve haber okuryazarlığının yanlış bilginin yayılmasını durdurmada ilk savunma hattı olduğu konusunda hemfikir olsa da, yanlış bilgiyle mücadeleye için makine öğrenimindeki ilerlemeler kaydedilmesi gerekmektedir.

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

48. Yapay zekâ sistemlerinden kaynaklanan potansiyel risklere dair artan farkındalık, bu sistemlere ve bunları geliştiren kuruluşlara olan güveni aşındırırken, bu riskler ile baş etmek için harekete geçilmesine neden oldu.

- A) Growing awareness of potential risks caused by artificial intelligence systems has required action to address these risks while eroding confidence in the organisations that develop these systems.
- B) While confidence in artificial systems and the companies developing these systems have eroded, public awareness of the potential threats posed by these systems has increased, causing action to be taken to deal with these risks.
- C) Growing awareness of the potential threats posed by artificial intelligence systems has made people deal with these risks and also eroded confidence in the organisations that develop these systems.
- D) Growing awareness about the potential risks of artificial intelligence has caused the action to address the risks while eroding the confidence in systems using artificial intelligence and the companies that develop them.
- E) Growing awareness of potential risks from artificial intelligence systems has caused action to address these risks while eroding confidence in these systems and the organizations that develop them.

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49. İnsanların eski çağlardan beri gece gökyüzünde çıplak gözle görülebilen Ay ve Güneş'i gözlemlenmeleri, bu gök cisimlerinin hareketlerini açıklayacak modellerin geliştirilmesine yol açmıştır.

- A) The fact that humans have made observations of the Moon and the Sun visible to the naked eye in the night sky since ancient times has led them to develop models that explain the movements of these celestial objects.
- B) Since ancient times, humans have relied on the naked eye to make observations of the Moon and the Sun in the night sky, and this has resulted in the development of models to explain the movements of these celestial bodies.
- C) That humans have made observations of the Moon and the Sun visible to the naked eye in the night sky since ancient times has led to the development of models to explain the movements of these celestial objects.
- D) Humans' observations of the Moon and the Sun visible to the naked eye in the night sky since ancient times have paved the way for the development of models that can explain how these celestial objects move.
- E) That humans have observed celestial objects in the night sky visible to the naked eye, such as the Moon and the Sun, since ancient times has led to the development of models that explain their movements.

50. Bilim insanları geçen yüzyılda Einstein'ın genel görelilik kuramını defalarca test edip, yetersiz kaldığı durumları veya koşulları bulmaya çalışsalar da henüz bir tane bile bulamadılar.

- A) Einstein's general relativity theory has been tested repeatedly over the past century by scientists trying to find situations or circumstances in which it will come up short, but there has been none so far.
- B) Though scientists have tested Einstein's general theory of relativity repeatedly over the past century and tried to find the situations or circumstances where it comes up short, they haven't found even one yet.
- C) Putting Einstein's general relativity theory to the test repeatedly over the past century, scientists have been trying to find situations or circumstances in which the theory comes up short; however, they have not found even one yet.
- D) Although scientists have tested general relativity theory, put forward by Einstein, repeatedly during the last century, they have not been able to find even a single situation or circumstance in which the theory comes up short.
- E) Even though Einstein's general relativity theory has been tested repeatedly by scientists in the past century with the aim of finding situations or circumstances in which it comes up short, they haven't found even one yet.

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51. Bazı toprak bitkileri ve toprak organizmaları, antibiyotiklerin ve diğer ilaçların geliştirilmesine yol açmış olan birtakım bileşikler içerir.

- A) That some soil plants and soil organisms contain certain compounds has led to the development of antibiotics and other medicines.
- B) Some soil plants and soil organisms that contain certain compounds have led to the development of antibiotics and other medicines.
- C) Some soil plants and soil organisms contain certain compounds, which have made the development of antibiotics and other medicines possible.
- D) It is the certain compounds some soil plants and soil organisms contain that have led to the development of antibiotics and other medicines.
- E) Some soil plants and soil organisms contain certain compounds that have led to the development of antibiotics and other medicines.

52. Barajlar, nehir sistemlerindeki sıcaklığı, tortuyu ve balık, omurgasız ve bitki popülasyonlarının bel bağladığı besin akışını değiştirir, bu da bu türlerin azalmasına veya yok olmasına sebep olabilir.

- A) Dams alter the temperature, sediment and nutrient flow in river systems that fish, invertebrates and plant populations rely on, which can bring about the decline or disappearance of these species.
- B) The temperature, sediment and nutrient flow in river systems which fish, invertebrates and plant populations rely on change due to dams, and this might cause these species to decline or disappear.
- C) Fish, invertebrates and plant populations rely on the temperature, sediment and nutrient flow in river systems, but dams may alter this, reducing or wiping out these species.
- D) Altering the temperature, sediment and nutrient flow in river systems which fish, invertebrates and plant populations are dependent on, dams cause the decline or disappearance of these species.
- E) Dams which alter the temperature, sediment and nutrient flow in river systems that fish, invertebrates and plant populations rely on, can bring about the decline or disappearance of these species.

53. Bilim insanları, yağmur ormanlarında var olan çeşitli türleri keşfetmeye çalışırken, bu arada çevreciler, daha fazla keşfedilmemiş tür sonsuza kadar yok olmadan önce bu yaşam alanlarının yok edilmesini durdurmayı amaçlıyor.

- A) Although scientists aim to discover the various species that rainforests harbour, environmentalists, in the meantime, try to put an end to the destruction of these habitats so that more undiscovered species will not become extinct forever.
- B) While scientists are trying to discover the various species that exist in rainforests, environmentalists, meanwhile, are aiming to stop the destruction of these habitats before more undiscovered species disappear forever.
- C) Scientists are trying to discover the various species that exist in rainforests, and environmentalists, meanwhile, are attempting to stop the damage that may be caused in these habitats before more species are lost forever.
- D) While scientists are trying to discover the various species existing in rainforests, environmentalists, in the meantime, are trying to prevent more undiscovered species that live in these habitats from being wiped out forever.
- E) Scientists keep discovering various species that are found in rainforests, while environmentalists are aiming to stop the destruction being caused in these habitats in order to prevent more species from disappearing forever.

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TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

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

54. Thwaites glacier in western Antarctica is the widest glacier on Earth. However, it is now changing from a land-attached ice mass into a floating ice shelf in the Amundsen Sea due to global warming. This glacier is sometimes referred to as the "Doomsday Glacier," as researchers believe its collapse could trigger a huge glacial collapse in Antarctica in three years. ---- This is mainly because the warming of ocean water is rapidly melting glaciers from below, which means that a scenario to be feared in a short time is unlikely. Also, as the glacier weakens, it will then become more prone to surface fractures that could spread until the entire ice shelf shatters.
- A) This glacier is roughly the size of Florida and is thought to have enough ice to raise the sea level to almost two metres.
- B) Recent studies suggest that this dramatic end may be even sooner than researchers calculated.
- C) Thwaites Glacier is also known as one of the largest glaciers all over the world.
- D) Some believe, on the other hand, the shattering of the whole glacier seems to occur for many centuries to come.
- E) This affected area is, in fact, very small when considered in the context of the glacier as a whole.

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55. Tiny groups of cells shaped like Pac-Man are the world's first self-replicating biological robots. These bots, dubbed "xenobots" by their inventors, are made from the skin cells of frogs, but they do not reproduce by any of the other ways cells divide and replicate in normal circumstances. ---- During this process, the bots even look like Pac-Man as they move in wild spirals with their "mouths" open, bundling free-floating skin cells into piles. The cells tend to adhere or stick together once put in contact with one another, so these piles gradually blend into new, spiralling xenobots.

- A) Even though this self-replication is a fairly delicate process, it offers new promise for biological robots.
- B) Therefore, they are neither a traditional robot nor a known species of animal.
- C) Instead, they build more of themselves by creating multiple generations of nearly identical organisms.
- D) Ultimately, control of the xenobots comes down to control of their shapes.
- E) For instance, researchers can even vary the environment around the simulated xenobots.

56. Coral reefs, a complex mix of animal and plant life underwater, contain more than 25% of all marine life. As only rainforests provide homes for more species of animals and plants, they are also called the "rainforests" of the ocean. They are ecologically important ecosystems, with high biodiversity serving as a storage bank of rich genetic resources and are also a source of food for a variety of species. ---- This is because 10% of the world's reefs have already been devastated due to pollution and 60% are in jeopardy because of the present level of CO2 emission released into the Earth's atmosphere.

- A) Over the last 25 million years, they have evolved into reef-building forms.
- B) Their future is at stake though unless they are treated with the respect that they deserve.
- C) However, ideal conditions for their development are tropical waters that have a stable warm temperature.
- D) Likewise, they are one of the most crucial features of the world's environment.
- E) It is predicted that these critical ecosystems could disappear forever within 40 years.

57. Researchers have created the world's first battery that is both stretchable and washable, working even when twisted or extended to twice its normal size and after being thrown in a laundry machine. Wearable electronics are a big market, and stretchable batteries are essential to their development. However, up until now, stretchable batteries have not been washable. ---- Researchers have made this possible through a damage-proof design. These batteries create an airtight, waterproof seal that ensures their integrity even in rough conditions such as a laundry machine cycle.

- A) These batteries could cost the same as an ordinary rechargeable battery.
- B) The batteries might also be integrated with clothing that can actively change colour or temperature.
- C) These washes are undertaken in both home and commercial-grade washing machines.
- D) They provide safer chemistry, while others can produce toxic compounds when they break down.
- E) This is a critical addition if they are to withstand the demands of everyday use.

58. Scientists are developing an efficient new solar panel material that is fifteen times thinner than paper. Made using transition metal dichalcogenides, the materials have the potential to absorb a higher level of sunlight than other solar materials. ---- What is more, silicon is by far the most common material used for solar panels. Yet, it is heavy and rigid, which makes these solar panels particularly unsuitable to lightweight applications required for aircraft, spacecraft, electric vehicles, or even wearables.

- A) Also, they provide an incredibly lightweight alternative to silicon-based solar panels.
- B) Obstacles exist when it comes to manufacturing and transporting the material without damaging it.
- C) The use of silicon in the construction of solar panels is neither new nor uncommon.
- D) Silicon makes up 95 per cent of the solar market today, but it is far from perfect.
- E) Thus, finding alternative solar panel materials to silicon can be a time-consuming task.

59. Significant amounts of water hiding inside Mars' Valles Marineris canyon system have been discovered, and up to 40% of material near the surface of the canyon could be water molecules. The volume of water was detected by the Trace Gas Orbiter, a mission in its first stage. Signs of water were picked up by the orbiter's sophisticated instruments designed to survey the landscape and map the presence and concentration of hydrogen hiding in Red Planet's soil. ---- Therefore, the first human mission to Mars may consider exploring this area a major priority.

- A) But several features of the canyon may make it tough for future explorers to utilise this reservoir.
- B) New data now provides a better understanding of why there is almost no water left on Mars.
- C) This reservoir is large, not too deep below ground, and could be easily exploitable.
- D) Yet, its atmosphere is extremely dry compared to Earth's, with about 100 times less water.
- E) There is plenty of evidence of water on Mars' surface that existed about four billion years ago.

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TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

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

60. (I) Ever since scientists started looking at meteorites with microscopes, they have been puzzled and fascinated by what is inside. (II) Most meteorites are made of tiny beads of glass that date back to the earliest days of the solar system, before the planets were even formed. (III) The beads of glass inside these meteorites are called chondrules. (IV) Scientists can find clues about the early days of the solar system by looking at the types of a given element in a rock. (V) It is thought that they are bits of rock left over from the debris that was floating around billions of years ago, which eventually merged into the planets we now know.

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

61. (I) Plastics found in electronic waste are rarely recycled due to their complex composition and hazardous additives. (II) However, scientists have developed a new use for them by repurposing them as an alternative to the plastics that are used in laboratory cell culture containers, such as petri dishes. (III) For now, we do not have a clear idea whether using these plastics in such an way will pose an unforeseen problem in the future. (IV) Repurposing them for cell culture in the lab would allow maximum value to be recovered from e-waste plastics. (V) The process could also help to reduce the amount of plastic waste generated from biomedical research.

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

62. (I) NASA's Mars Exploration Program aims to explore Mars and provide a continuous flow of scientific information and discovery. (II) NASA's Mars rover called Perseverance has discovered carbon-containing organic compounds in some of the rocks it investigated on the floor of the Red Planet's Jezero Crater. (III) However, this discovery cannot be considered as detection of life on Mars, since organics can be produced by both biological and non-biological means. (IV) Therefore, further research is required to determine the processes that formed the Jezero compounds. (V) Still, this is an important milestone, as this discovery will shed light on the process that led to the formation of the rocks in Jezero Crater.

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

63. (I) Driving simulator tests are popular for understandable reasons: any scenario can be simulated at the touch of a button. (II) They are independent of time and weather conditions and without any safety risk for the vehicle, people or the environment. (III) In addition, until recently, there were no standardised test procedures to check complex tasks such as human and system interaction. (IV) Moreover, an hour in the driving simulator is cheaper and requires less organisation than a real driving lesson on a test track. (V) In the field of highly automated driving, however, driving simulator studies are often questioned because of the lack of realism.

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

64. (I) When forecasting how storms may change in the future, it helps to know something about their past. (II) Judging from historical records dating back to the 1850s, hurricanes in the North Atlantic have become more frequent over the last 150 years. (III) However, scientists have questioned whether this upward trend is a reflection of reality, or simply an artefact of lopsided record-keeping. (IV) If 19th-century storm trackers had access to 21st-century technology, they would most certainly have recorded more storms. (V) This is still a mystery and boils down to the question of how global warming will affect future hurricanes.

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

65. (I) Monitoring population numbers of animals may indicate damage to the ecosystem in which they live. (II) For instance, microorganisms can be used as indicators of toxins in an ecosystem. (III) Some microorganisms will produce stress proteins if they are exposed to certain pollutants. (IV) Because microorganisms include most unicellular organisms, they can be extremely diverse. (V) Therefore, we can get an idea of the level of pollution present in the environment by measuring the levels of these proteins.

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

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

66. - 68. soruları aşağıdaki parçaya göre cevaplayınız.

When it comes to climate change, scientists are finding that killer whales may be nature's equivalent of rich Westerners: able to move, adjust, and perhaps even profit from it, when others less fortunate are unable to do so. Killer whales, also known as orcas, are highly mobile, can adjust to change, and be quick to take advantage of new opportunities. Research found that these whales moved northward earlier each year as the ice melted, which is not surprising, as killer whales hunt prey at the edge of the ice. Researchers have also found that these whales are appearing earlier and earlier each year at any given location, as climate change thins the ice and causes it to melt off earlier. But they are also showing up in places where they had never been known to go before. Killer whales have also begun to feed on seals and other marine mammals that are more normally the prey of polar bears. Research shows that there could be some overlap between these two predators vying for prey. The bottom line is that with animals, just as with nations, climate change really is going to produce winners and losers.

66. The author gives the example of rich Westerners in order to ----.

- A) show that killer whales are highly capable of adapting to and benefiting from new experiences
- B) prove that killer whales are the most dangerous predators that are able to adjust to abrupt climatic changes
- C) raise important questions regarding the threats climate change poses to both people and animals
- D) criticise western countries that are always exploiting the natural resources of underdeveloped countries
- E) reveal that killer whales may become one of the endangered species due to climate change

67. It can be understood from the passage that killer whales ----.

- A) employ a wide variety of strategies in order to hunt their prey
- B) are highly dependent on thick ice to catch their prey, just like polar bears
- C) have altered their feeding patterns owing to climate change
- D) have the potential to travel vast distances for long periods of time without feeding
- E) have substantially reduced the populations of polar bears due to the rivalry they have with them

68. Which of the following is closest in meaning to the underlined word 'vying' in the passage?

- A) Providing
- B) Exchanging
- C) Diminishing
- D) Obstructing
- E) Competing

69. - 71. soruları aşağıdaki parçaya göre cevaplayınız.

Why are millennia-old ancient Roman piers still standing strong as concrete islands, while modern concrete structures built only decades ago crumble into pieces due to wind and waves? The answer lies in an until-now undocumented Roman recipe. Researchers have revealed that as seawater filters through piers made of age-old Roman concrete, the structures actually become increasingly stronger because of the growth of interlocking minerals – including some minerals that are rare or expensive to cultivate in lab settings. These minerals, similar in shape to the crystals in volcanic rocks, then form interlocking plates in gaps within the ancient concrete, making it stronger over time. This is pretty much the opposite of what happens to modern concrete structures, which are worn down and become increasingly cracked and fragile as gaps are compromised by infiltrating seawater. So why aren't we using Roman-style concrete? For one, we do not know the recipe, although geological engineers have been trying to recreate the right mix for many years. We may think we are at the height of human knowledge, but the ancients did possess precious knowledge that has been lost to time.

69. It is pointed out in the passage that ----.

- A) researchers have unveiled the secrets of the ancient Roman-style concrete structures
- B) modern concrete structures are susceptible to the negative impacts of seawater
- C) today's engineers have managed to mimic the concrete structures built by ancient Romans
- D) ancient concrete structures cannot withstand modern use despite their strength
- E) Roman-style concrete was far more durable than the structures erected by other ancient people

70. It can be concluded from the passage that ----.

- A) ancient Romans kept their engineering expertise secret deliberately so that their structures would not be replicated
- B) the minerals found in the Roman-style concrete are now non-existent
- C) due to the lack of historical documents, we have not yet grasped the essence of Roman-style concrete
- D) researchers aim to find the missing documents containing the secrets of Roman-style concrete structures
- E) ancient Romans utilised volcanic rocks when building concrete structures

71. What is the author's attitude towards modern concrete structures?

- A) Optimistic
- B) Favouring
- C) Impartial
- D) Critical
- E) Enthusiastic

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

72. - 74. soruları aşağıdaki parçaya göre cevaplayınız.

Imagine a future where computers run on light and windows can change into mirrors in the blink of an eye. All this may be possible with the right lasers. It might sound like something from sci-fi, but optical engineering is an expanding field of work that aims to develop lasers that can change the properties of materials. The technologies were limited by the problem of the lasers creating too much heat in the materials. Now, researchers have found a way to make lasers change the properties of materials without any excess damage from laser-made heat. They used intense infrared lasers to rapidly change the energy of electrons inside the material. Normally, this instantaneous change would be impossible because the material would heat up too much, and it would take a long time for the heat to dissipate. However, this method works because intense infrared laser alters the distances between electron energy levels. Electrons jumping between levels is what causes heat, so this approach prevents too much heat from building-up. In principle, this innovative method can change optical, magnetic and many other properties of materials. Therefore, rather than making new materials to realise different properties, we can soon take just one material and ultimately give it a broad range of useful properties.

72. One can understand from the passage that ----.

- A) the heat produced by laser energy depends on the power level of the laser used
- B) the discovery of intense infrared lasers to change the properties of materials was purely incidental
- C) the number of electrons in a material decreases when exposed to excessive heat
- D) researchers have been inspired by sci-fi movies when developing intense infrared lasers
- E) a single material will probably possess a wide variety of beneficial properties in the near future

73. Which of the following is true about the properties of materials?

- A) They can be altered only temporarily at the moment.
- B) They have been better understood thanks to the novel laser technology.
- C) They change rapidly when exposed to intense infrared laser.
- D) It is impossible to switch them back to their original state.
- E) It takes researchers a long time to make alterations to them.

74. The passage is mainly about ----.

- A) the new principles planned to be used in the field of optical energy
- B) novel methods to provide power for devices running on electricity
- C) an innovative means to manipulate the properties of materials
- D) a ground-breaking method that will change the future of laser technology
- E) the significant role heat plays in the rapid transformation of materials

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

75. - 77. soruları aşağıdaki parçaya göre cevaplayınız.

Scientists say that the Amazon Rainforest is on the brink of collapse and could transform into a dry savannah in just five years. Luciana Gatti, a senior climate change researcher, asserts that the Amazon could be just five years away from a total environmental disaster, adding that it is about to collapse, it is in an emergency, and urgent action is needed now. A comprehensive report identified a variety of different factors pointing to the rainforest's collapse, with the primary drivers being the rising global temperatures due to climate change and the massive deforestation efforts by Brazil, where much of the Amazon is located. This is a perfect formula for "savannization", a process that describes a forest drying up due to reduced rainfall and transforming into a dry, arid savannah grassland. Luciana Gatti says that there is a narrow window of opportunity to change this trend. But action must be exponential. At minimum, this would mean halting all deforestation efforts immediately. This would also need to be followed by an aggressive reforestation campaign in order to restore the rainforest. It is not too late, but attempts to prevent the Amazon rainforest from collapsing should have been made decades, not years, ago.

75. One can conclude from the passage that ----.

- A) scientists have been unable to determine all the factors causing the Amazon Rainforest to collapse
- B) a comprehensive reforestation effort to prevent the disaster in the Amazon is already underway
- C) the Amazon rainforest could be saved in just five years provided that urgent action is taken now
- D) there are several reasons why Brazil is incapable of addressing the Amazon Rainforest disaster alone
- E) the action to save the Amazon Rainforest should have been taken much earlier

76. According to Luciana Gatti, ----.

- A) the Amazon will turn into a dry savannah irrespective of the urgent action to prevent it
- B) the efforts of scientists to save the Amazon Rainforest are inadequate at the moment
- C) there is only a slim chance to halt the course of the collapse of the Amazon Rainforest
- D) urgent action taken to reverse damage to the Amazon Rainforest has started to pay off
- E) scientists all around the world should collaborate to save the Amazon Rainforest

77. Which of the following is the best title for this passage?

- A) The Amazon Rainforest: On the Verge of Disaster
- B) Exploitation of the Amazon Rainforest
- C) Brazil's Reforestation Efforts in the Amazon
- D) To Save or Not to Save: The Amazon Rainforest
- E) Regeneration of the Amazon Rainforest

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

78. - 80. soruları aşağıdaki parçaya göre cevaplayınız.

There is a shortage of donor organs all over the world – a terrifying difficulty for the hundreds of thousands of patients on transplant waiting lists. But new technology has the chance to make the donor organ obsolete. A biotech company claims that they 3D bioprinted a miniaturised human heart. Though it is still years out, their long-term goal is to print full-scale human hearts that can be transplanted into human patients. The company used a bioink that was designed to replicate actual human biomaterials. The heart was printed the same way a 3D printer prints small objects: layer by layer. Once fully printed, the heart was transferred to a bioreactor that mimics the conditions of the human body, helping the cells fuse themselves into tissue. What sets this mini heart apart from its counterparts is its inner workings. It has four major internal chambers and all other structures, like valves, found inside the human heart. Despite these developments, the mini heart is far from ready for transplant in the near future. For now, it could become a viable tool for cardiotoxicity testing – the study of how drug treatments and medications could damage heart muscles. In fact, that is what it was designed to do in the first place.

78. Which of the following can be concluded from the passage about the mini heart?

- A) It will be used by drug companies to determine the side effects of their medications.
- B) There is a fierce competition between its developer and the other companies in the market.
- C) Its developers are looking for volunteers to test whether it is ready to be transplanted.
- D) Since it has four interior chambers, it helps determine whether medications could damage heart muscle.
- E) One of the objectives of developing it is to reveal how certain drugs can impair heart muscles.

79. The mini heart mentioned in the passage is distinct from others since it ----.

- A) can be 3D printed much faster than its counterparts
- B) is the first mini heart that has been 3D printed using biomaterials
- C) possesses all the structures of a full-sized human heart
- D) is the smallest mini heart that has been developed so far
- E) has structures more durable than the other mini hearts in the market

80. What is the author's purpose in writing this passage?

- A) To draw attention to the people in need of heart transplants
- B) To inform the audience about the future of 3D technology
- C) To provide information about a breakthrough in artificial heart development
- D) To emphasise how 3D technology can be used in various fields of science such as medicine
- E) To persuade the audience to become donors to save people's lives

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - I

