

YÖKDİL MART
2020
FEN SORULARI

1. **Scientific discoveries may be made simultaneously by scientists working independently, but almost every ---- depends on previous work and theories.**

- A) expense
- B) precaution
- C) threat
- D) advance
- E) decline

2. **Artificial selection is the conscious attempt by human beings to change the environments or ---- of other organisms so as to alter the evolution of these organisms.**

- A) instructions
- B) traits
- C) profits
- D) intentions
- E) causes

3. **Taxonomy is the area of biological science comprising three ---- but highly interrelated disciplines: classification, naming and identification of organisms.**

- A) respectable
- B) regular
- C) distinct
- D) virtual
- E) consistent

4. **A volcanic catastrophe is often thousands of years in the making - many volcanoes gain strength for millennia before an ---- powerful explosion occurs.**

- A) immensely
- B) insufficiently
- C) adversely
- D) inconveniently
- E) elaborately

5. **Swifts, one of the fastest small birds, can be --- from the superficially-similar African swallows by their characteristic style of flight.**

- A) derived
- B) prevented
- C) extracted
- D) distinguished
- E) obtained

6. **Bioinformatics is a new field that ---- the development and application of computational methods to organise, integrate, and analyse gene-related data.**

- A) centers on
- B) falls behind
- C) leaves out
- D) brings down
- E) puts off

7. **At the end of the 17th century. Isaac Newton - --- his laws of motion and gravity, making science more precise and mathematical than it ---- before.**

- A) had set down / would have been
- B) was setting down / has been
- C) set down / had been
- D) would set down / was
- E) had been setting down / would be

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8. **Over the past 100 years, the relativity theories and quantum mechanics --- major triumphs at the cost of us, ---- our classic conception of time.**

- A) have celebrated / losing
- B) celebrated / to have lost
- C) have been celebrated / having been lost
- D) had celebrated / being lost
- E) were celebrated / to be lost

9. **The Enlightenment period saw astronomical observatories grow ---- size and number, ---- a growing emphasis on the housing of larger telescopes.**

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

10. **The boiling point of a liquid substance is the temperature ---- which the vapour pressure of the liquid equals the external pressure ---- the liquid.**

- A) of/ by
- B) among /off
- C) at / on
- D) for / with
- E) in / under

11. **After 13 years in Saturn's orbit, the Cassini spacecraft ended its mission in September 2017 ---- making a planned dive ---- the planet's atmosphere.**

- A) after / with
- B) about / over
- C) in / at
- D) by / into
- E) from / through

12. **---- the Earth's long history, scientists divide its 4.5-billion-year existence using the geologic time scale, which makes this history manageable.**

- A) Unlike
- B) Except for
- C) On behalf of
- D) Because of
- E) Similar to

13. **It takes up to five years.-- a cocoa tree bears fruit, and it then produces around 1.poo beans a year, but that is only enough for one kilogramme of chocolate.**

- A) because
- B) unless
- C) before
- D) as if
- E) as soon as

14. **---- continental islands are part of their nearby continental land mass, Oceanic islands are the result of undersea volcanoes or tectonic plate activity pushing up the sea floor.**

- A) Unless
- B) After
- C) While
- D) Because
- E) As long as

15. **Like people, animals can also have reactions to pollen and other environmental allergens, - --- they have different symptoms than we do and should be treated differently as well.**

- A) as if
- B) once
- C) but
- D) so
- E) since

16. The solid core inside the Moon is similar to that of Earth; ----, the Moon's core is gradually cooling, which creates cracks on the surface, in contrast to the Earth's warming core.

- A) however
- B) eventually
- C) furthermore
- D) for instance
- E) in brief

17. Atmosphere observation includes such well-known instruments as the thermometer and barometer --- less familiar devices such as the radiosonde.

- A) according to
- B) in terms of
- C) with the purpose of
- D) owing to
- E) as well as

18. According to a study, a common species of wasp appears to be becoming smaller in number ---- the ongoing global rise in temperatures.

- A) except for
- B) rather than
- C) as a consequence of
- D) contrary to
- E) in pursuit of

19. Studies have shown that flying animals manage well ---- due to the fact that they can escape predators by taking flight, ---- because flight has supplied them with a number of advantageous qualities.

- A) such/ that
- B) the more /the more
- C) neither / nor
- D) not only / but also
- E) as / as

20. Inside the Sun, density and temperature rise steadily toward the core, ---- the pressure is more than 100 billion times greater than the atmospheric pressure on the Earth's surface.

- A) where
- B) how
- C) which
- D) whom
- E) what

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For thousands of years, humans had relied on animals and manpower to move heavy loads and drive machinery. This all changed in the late 18th century with the arrival of a new invention: the steam engine. Steam engines operate by burning fuel to heat water (21) ---- it boils. The resulting hot steam (22) --- the boiling water is trapped to create pressure, which is used to drive machinery. This simple principle opened the way to powerful new engines. Steam engines were more (23) ----than windmills or waterwheels which had to be built in specific places. They were more powerful than humans and animals, and they (24) ---- equipment used on farms and in factories. (25) ---- all these advantages, larger models were used to pump vast amounts of water to drain mines and supply canal systems.

21.

- A) as if
- B) unless
- C) until
- D) although
- E) just as

22.

- A) into
- B) from
- C) without
- D) at
- E) for

23.

- A) urgent
- B) tedious
- C) threatening
- D) redundant
- E) flexible

24.

- A) may drive
- B) have to drive
- C) should have driven
- D) could drive
- E) would have driven

25.

- A) Such as
- B) Regardless of
- C) Contrary to
- D) Instead of
- E) In addition to

Before the invention of the microscope, it was impossible to see cells. Some biological theories were therefore based on speculations (26) ---- Scientific observation. For example, people believed in 'spontaneous generation' (27) ---- it was hard to believe that cells would regenerate. The development of the microscope, including that of an electronic version in the 20th century, made (28) ---- observation of the internal structure of the cell possible. Robert Hooke was the first (29) ---- dead cells in 1665. In 1838, Matthias Schleiden observed living cells, and in 1839, in collaboration (30) ---- Theodor Schwann, he developed the first theory of cells; that all living organisms consist of cells.

26.

- A) despite
- B) owing to
- C) rather than
- D) similar to
- E) as a result of

27.

- A) in case
- B) as long as
- C) because
- D) although
- E) so that

28.

- A) weak
- B) scarce
- C) accidental
- D) vague
- E) detailed

29.

- A) to see
- B) seeing
- C) to have been seen
- D) having seen
- E) to be seen

30.

- A) with
- B) between
- C) to
- D) from
- E) for

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31. Despite their benefits in farms where pests are abundant, ---

- A) pesticides are widely used by farmers to increase agricultural productivity
- B) pesticides are responsible for about one million poisoning cases globally every year
- C) humans cause much more severe environmental damage than pesticides do
- D) pesticides can also be classified according to the similarities of their chemical structures
- E) contagious diseases in crops can be prevented by using pesticides

32. Once it has decided on its target, ---

- A) the dragonfly attacks the prey in mid-air using its legs
- B) the dragonfly's menu also features mosquitoes, flies and butterflies
- C) the dragonfly is often seen over water in the wild
- D) the dragonfly has hardly changed, proving itself to be the champion of adaptation
- E) the dragonfly is an insect with a long thin body

33. Although several geological phenomena account for the formation of numerous lakes on Earth, ----

- A) most lakes were formed as a result of glacier activity
- B) they are inland bodies of water scattered over the earth's surface
- C) salt lakes have high levels of chalky deposits at the bottom
- D) young lakes have less organic matter as opposed to old ones
- E) lake basins formed at the edge of glaciers were generally too deep

34. As the technology for piping gas from the source began to improve, ----

- A) it was the product of the decaying of living matter over millions of years
- B) Alaska and Texas were the largest sources of gas in the US
- C) it became possible to transport gas over thousands of miles
- D) it was initially inconvenient to store in large amounts
- E) it was believed to have been first discovered and used by the Chinese

35. Although traditional recruitment sources such as newspaper advertisements are still used to recruit job applicants, ----

- A) people also argue that the Internet may pose potential threats to personal privacy
- B) use of Internet is less likely to reduce the time associated with traditional recruitment methods
- C) most people seeking jobs are still looking at newspaper advertisements instead of using the Internet
- D) the Internet has changed the way in which many organisations announce job opportunities
- E) the Internet recruiting poses challenges for organisations that use online recruiting programmes

36. Although lead was widely known at a very early date, ----

- A) the first metal to be practically utilised was copper
- B) that period is known as the Chalcolithic Age
- C) metallurgical developments originated in mountainous regions
- D) the emergence of rock-melting process started the Copper Age
- E) most of the larger metal artefacts were produced in the Middle East

37. Fossils may be the body parts or direct traces of activities left behind by animals, plants, fungi, and microorganisms; ----

- A) thus, they might include a mammalian tooth, a clam shell, a leaf or the entire skeleton of a dinosaur
- B) on the other hand, fossils are real and truly the remains of long-dead organisms
- C) by comparison, they are usually formed as dead organisms become buried by layers of sediment
- D) however, some people have historically studied fossils as an interest
- E) for example, ancient people used fossils to make necklaces and to exchange in trade

38. The life cycle of different insect species varies greatly, ---

- A) while the field of insect ecology investigates Mortality factors that help regulate insect populations
- B) as it is essential to understand populations and their reproductive capacity
- C) thus some feed on living plants, others on decaying plants, and still others on animals
- D) given that some species that coexist in an area and interact with each other form an ecological community
- E) but all insects undergo the basic stages of development from an egg to a reproductive adult

39. Insect-pollinated flowers are usually brightly coloured and sugary-smelling ----

- A) although birds or bats use these colourful flowers as landing pads
- B) while hummingbirds are the only pollinating birds that fly as they feed
- C) because insects are attracted by vivid colours and sweet scents
- D) only when some plants try to shed their shiny pollen into the air
- E) as some flower heads have much larger flowers, spaced much further apart

40. Humans have drastically altered wetlands for a variety of reasons; ----

- A) for example, an estimated 26 per cent of the world's wetlands have been converted for agricultural purposes alone
- B) however, more than half of the original wetlands in the United States have been destroyed in the past 200 years
- C) as a result, people thought that they were nothing more than breeding places for diseases
- D) on the contrary, wetland birds migrate to cold places during summer months
- E) in other words, the wetlands are home to a Large variety of wildlife

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41. Chestnut wood can be worked easily to manufacture fine furniture and musical instruments; ----

- A) on the other hand, chestnuts are species of trees in the genus Castanea
- B) moreover, it is also used for its durability in roof materials and construction timber
- C) for example, true chestnut seeds could be confused with horse chestnuts
- D) thus, in 1999, the global crop of sweet chestnut was harvested from about 630,000 acres
- E) similarly, they are species of temperate hardwood forests found in the northern hemisphere

42. By opening the way to the use of high-rise buildings, the elevator played a decisive role in the creation of the characteristic urban geography of many modern cities.

- A) Pek çok modern şehrin karakteristik kentsel coğrafyasını oluşturmada belirleyici bir rolü olan asansör, çok katlı binaların kullanılmasının yolunu açmıştır
- B) Asansör, çok katlı binaların kullanımının yolunu açarak pek çok modern şehrin karakteristik kentsel coğrafyasının oluşmasında belirleyici bir rol oynamıştır.
- C) Çok katlı binaların kullanımının yolunu açan asansör, pek çok modern şehrin karakteristik kentsel coğrafyasının oluşmasında belirleyici bir rol oynamıştır.
- D) Asansör çok katlı binaların kullanımının yolunu açtığı için pek çok modern şehrin karakteristik kentsel coğrafyasının oluşumunda belirleyici bir rol oynamıştır.
- E) Çok katlı binaların kullanımının yolunu açan asansör, pek çok modern şehrin karakteristik kentsel coğrafyasının oluşmasında belirleyici bir role sahip olmuştur.

43. At the beginning of the Industrial Revolution, engineers devoted their efforts almost entirely to making devices that functioned profitably, but with no attention to their safety

- A) Sanayi Devrimi'nin başlangıcında mühendisler neredeyse bütün çabalarını kârlı bir şekilde işleyen, ancak güvenliğine önem vermedikleri aygıtlar yapmaya adanmışlar.
- B) Sanayi Devrimi'nin başlangıcında hemen bütün çabalarını kârlı bir şekilde çalışan aygıtlar üretmeye adanmış mühendisler, güvenliğe hiç önem vermediler.
- C) Güvenli aygıtlar yapmak, Sanayi Devrimi'nin başlangıcında mühendislerin kârlı bir şekilde çalışan aygıtlar yapmak kadar önem verdikleri bir konu değildi.
- D) Kârlı bir şekilde işleyen aygıtlar üretme çabaları, Sanayi Devrimi'nin başlangıcında, mühendislerin güvenli aygıtların üretilmesine pek önem vermemelerine neden oldu.
- E) Sanayi Devrimi'nin başlangıcında mühendisler kendilerini tamamen kârlı bir şekilde çalışan aygıtlar yapmaya adanmışlar, fakat güvenliğine hiç önem vermediler.

44. In 725, Chinese engineer Liang Ling-Zan and Buddhist monk Yi-Xing invented a water clock which displayed various astronomical events rather than the time.

- A) Zamanı ve çeşitli astronomik olayları gösteren su saati, Çinli mühendis Liang Ling-Zan ve Budist rahip Yi-Xing tarafından 725 yılında icat edilmiştir.
- B) 725 yılında, Çinli mühendis Liang Ling-Zan ve Budist rahip Yi-Xing, zamanı ve çeşitli astronomik olayları gösteren su saatini icat ettiler.
- C) 725 yılında, Çinli mühendis Liang Ling-Zan ve Budist rahip Yi-Xing tarafından icat edilen su saati, zamanı göstermek yerine çeşitli astronomik olayları gösteriyordu.
- D) 725 yılında, Çinli mühendis Liang Ling-Zan ve Budist rahip Yi-Xing, zamandan ziyade çeşitli astronomik olayları gösteren bir su saati icat ettiler.
- E) Zamandan çok çeşitli astronomik olayları gösteren su saati, Çinli mühendis Liang Ling-Zan'ın yardımıyla Budist rahip Yi-Xing tarafından 725 yılında icat edilmiştir.

45. Early farmers quickly learned that a supply of water was essential to farming thus, the primary fields of grain were processed alongside the great rivers of the Middle East.

- A) İlk çiftçiler su tedarikinin çiftçilik için önemli olduğunu çabucak öğrendiler, bu yüzden başlıca tahıl arazileri Orta Doğu'nun büyük nehirleri boyunca işlendi.
- B) İlk çiftçiler su tedarikinin çiftçilik açısından önemli olduğunu çabucak öğrenmelerinden dolayı başlıca tahıl arazilerini Orta Doğu'nun büyük nehirleri boyunca işlediler.
- C) Su tedarikinin çiftçilik için önemli olduğunu çabuk öğrenen ilk çiftçiler başlıca tahıl arazilerini Orta Doğu'daki büyük nehirler boyunca işlediler.
- D) Başlıca tahıl arazilerinin Orta Doğu'daki büyük nehirler boyunca işlenmesinin sebebi, ilk çiftçilerin su tedarikinin çiftçilik açısından önemli olduğunu çabucak kavramalarıdır.
- E) İlk çiftçiler su tedarikinin önemli bir çiftçilik meselesi olduğunu çabuk öğrendiler ve başlıca tahıl arazilerini Orta Doğu'nun büyük nehirleri boyunca işlediler.

46. Severe frost is a great threat to organisms, as the cold causes enzymes and cell membranes to function poorly.

- A) Şiddetli don organizmalar için büyük bir tehdittir, çünkü soğuk, enzimlerin ve hücre zarlarının zayıf bir şekilde çalışmasına neden olur.
- B) Şiddetli donun, organizmalar için büyük bir tehdit oluşturmasının sebebi, enzimlerin ve hücre zarlarının soğukta zayıf bir şekilde çalışmasıdır.
- C) Organizmalar için büyük bir tehdit yaratan şiddetli don ve soğuk, enzimlerin ve hücre zarlarının zayıf bir şekilde çalışmasına neden olur.
- D) Enzimler ve hücre zarları soğukta zayıf bir şekilde çalışır ve şiddetli don organizmalar için büyük bir tehdit oluşturur.
- E) Soğuk, enzimlerin ve hücre zarlarının zayıf bir şekilde çalışmasına neden olur, bu yüzden şiddetli don organizmalar için büyük bir tehdittir.

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47. The availability of information about products on the Internet, as long as it is well-organised and easy to access, is an important reason why some consumers prefer shopping online.

- A) İnternette ürünlerle ilgili bilgi mevcuttur ve bu bilgi iyi bir şekilde düzenlenmişse ve erişimi kolaysa, bazı tüketiciler İnternette alışveriş yapmayı tercih ederler.
- B) Bazı tüketicilerin İnternette alışveriş yapmayı tercih etmelerinin önemli bir sebebi, İnternette ürünlerle ilgili bilginin mevcut olması ve bu bilginin iyi düzenlenmiş ve erişiminin kolay olmasıdır.
- C) İyi düzenlenmiş ve erişimi kolay olduğu sürece İnternette ürünlerle ilgili bilginin mevcut olması, bazı tüketicilerin İnternette alışveriş yapmayı tercih etmesinin önemli bir sebebidir.
- D) İnternette ürünlerle ilgili mevcut olan bilgi iyi düzenlenmiş ve erişimi kolay olduğunda, bu durum tüketicilerin İnternette alışveriş yapmayı tercih etmesi için önemli bir neden olarak görülür.
- E) Ürünlerle ilgili bilginin İnternette yer alması, bazı tüketicilerin İnternette alışveriş yapmayı tercih etmelerinin önemli bir nedenidir, ancak bu bilgi iyi düzenlenmiş ve erişimi kolay olmalıdır.

48. Karnabahar ve brokoli gibi sebzeler, vücudun kafeini daha hızlı parçalamasına yardımcı olur, bu nedenle aşırı kafein alımı hâlinde bunları tüketmek makul olacaktır.

- A) As vegetables like cauliflower and broccoli help the body break down caffeine faster, it will be wise to consume them when caffeine is taken excessively
- B) In case of excessive caffeine intake, it will be wise to consume vegetables like cauliflower and broccoli because they help the body by breaking down caffeine faster.
- C) Vegetables like cauliflower and broccoli help the body break down caffeine faster, so it will be wise to consume them in case of excessive caffeine intake.
- D) In case of excessive caffeine intake, consuming vegetables like cauliflower and broccoli will be quite wise as they help the body break down caffeine faster.
- E) The body breaks down caffeine faster when vegetables like cauliflower and broccoli are consumed, so it will be wise to consume them if caffeine is taken excessively.

49. 1862 yılında, Louis Pasteur, süt 70 dereceye kadar ısıtılırsa içindeki bakterilerin öleceğini ve bu nedenle sütün daha uzun süre muhafaza edilebileceğini kanıtladı.

- A) 1862 was the year when Louis Pasteur proved that if milk was heated up to 70°C, the bacteria in it would be killed, and therefore it could be kept longer.
- B) What Louis Pasteur proved in 1862 was that if milk was heated up to 70 °C, this would kill the bacteria it contained, and thus the milk could be kept longer.
- C) In 1862, Louis Pasteur proved that if milk was heated up to 70 °C, the bacteria in it would die, and therefore the milk could be kept longer.
- D) Demonstrating that the bacteria milk contained would die if it was heated up to 70 °C, Louis Pasteur, in 1862, proved that the milk could be kept longer.
- E) In 1862, Louis Pasteur proved that milk would be kept longer provided that it was heated up to 70°C to kill the bacteria it contained.

50. Nörologlar tarafından yeni geliştirilen bir çip, beyin anatomik yapılarını kopyalamaya çalışmak yerine, insan zihninin bilişsel becerilerini taklit etmeyi amaçlamaktadır.

- A) The aim of the chip recently developed by neurologists is to mimic the cognitive abilities of the human mind rather than replicating the anatomical structures of the brain
- B) A chip recently developed by neurologists aims to mimic the cognitive abilities of the human mind instead of trying to replicate the anatomical structures of the brain.
- C) A chip recently developed by neurologists not only tries to replicate the anatomical structures of the brain, but also aims to mimic the cognitive abilities of the human mind.
- D) Trying to replicate the anatomical structures of the brain, a chip recently developed by neurologists aims to mimic the cognitive abilities of the human mind.
- E) A chip that aims to mimic the cognitive abilities of the human mind instead of trying to replicate the anatomical structures of the brain has been recently developed by neurologists.

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51. Çöller corak olabilir, ancak hem uzun kuraklıklar boyunca hem de nadir bir yağış sonrasında pek çok bitki ve hayvanın yuvasıdır.

- A) Deserts may be barren during the long droughts, but after a rare rainfall, they are home to a wide range of plants and animals.
- B) Even barren deserts may be home to many plants and animals, both during the long droughts and after a rare rainfall.
- C) Although deserts may be barren, they are home to a number of plants and animals during the long droughts and after a rare rainfall.
- D) Deserts, even if barren, are home to both plants and animals during the long droughts and after a rare rainfall.
- E) Deserts may be barren, but they are home to many plants and animals, both during the long droughts and after a rare rainfall.

52. Büyük Patlama kuramını destekleyen sağlam bilimsel kanıtlar vardır, ancak henüz kanıtlanmamış pek çok detay ve cevaplanmamış pek çok soru da bulunmaktadır.

- A) Although there are many details yet unproven and many questions still unanswered, there is solid scientific evidence to support the Big Bang theory.
- B) While there is solid scientific evidence to support the Big Bang theory, there are also many details yet unproven and many questions still unanswered.
- C) Despite the presence of solid scientific evidence to support it, the Big Bang theory still has many details unproven and many questions unanswered.
- D) There is solid scientific evidence supporting the Big Bang theory, however, there are also many details yet unproven and many questions still unanswered.
- E) The Big Bang theory has many details yet unproven and many questions still unanswered, but there is solid scientific evidence to support it.

53. Hücre klonlamanın amacı, belirli hücre türlerinin bilimsel araştırmalar için kullanılabilir pek çok kopyasını üretmektir.

- A) Producing many copies of certain types of cells that can be used for scientific research is one of the purposes of cell cloning.
- B) The purpose of cell cloning is to produce many copies of certain types of cells, as they are used for scientific research
- C) The aim of cell cloning is to produce many copies of certain types of cells, and these copies can be used for scientific research.
- D) The purpose of cell cloning is to produce many copies of certain types of cells that can be used for scientific research.
- E) Cell cloning aims to produce many copies of certain types of cells so that they can be used in scientific research.

54. Suspension bridges have many advantages over other kinds of bridges because of their design. For one thing, they can span great distances. The longest suspension bridge in the world is the Akashi-Kaikyo Bridge in Japan, covering an impressive 12,831 feet. --- For example, if the deck of the bridge is too thin, it can lose its stability in heavy winds and shake itself to pieces, which is what happened to the Tacoma Narrows Bridge in the United States in 1940.

- A) The first suspension bridge is considered to have been constructed in the 7th century BC by Mayans.
- B) This \$3.3 billion bridge, which took 12 years to build, is seen as a great engineering masterpiece.
- C) Furthermore, the wonderful design of these structures can make you wonder how they stay up.
- D) However, suspension bridges require careful design and planning to avoid any undesirable consequences
- E) A suspension bridge hangs from steel cables that are supported by towers at each end.

55. The sun's heat energy passes easily through glass and warms the room beyond, which means windows make ideal solar collectors. For maximum capture of solar energy, a house needs large south-facing windows. ---- Even if it cannot be oriented precisely north-south, it is still possible to harness a good percentage of the sun's energy. Also, to adapt an existing house, there are several options. For instance, bigger windows on southfacing walls could be installed.

- A) The type of glass in your windows determines how efficiently solar energy is captured.
- B) In new construction, this is easy to achieve by siting the house accordingly.
- C) The idea is to store heat and to radiate it back after the sun has gone down.
- D) The most efficient way to do this is with a heat recovery ventilation system.
- E) The sun is a fantastic source of costless heat that can be harnessed very simply.

56. Dissolved oxygen is the amount of oxygen present in fresh water, such as a stream, or freshwater lake. A certain amount of dissolved oxygen is required to sustain fish, animals, and other aquatic life. ---- These include fish being killed and loss of aquatic ecosystems.

- A) The oxygen is refilled through several mechanisms, one being the simple diffusion of the oxygen from the atmosphere into the water.
- B) Since most aquatic organisms need oxygen to live, it is important to maintain dissolved oxygen in water.
- C) Any decrease in dissolved oxygen can cause changes, usually negative, in an aquatic system.
- D) Determining the amount of dissolved oxygen in an aquatic system aids in the measurement of biochemical oxidation.
- E) Dissolved minerals such as magnesium and calcium contribute to the hardness of water.

57. Species have evolved throughout the course of natural history, and the fossil record is filled with evidence of extinctions, some of which have been sudden and catastrophic. Ecologists believe that we are in such an era of rapid species extinctions today. ---- For example, the spotted owl is endangered by overharvesting of old-growth forests in the United Kingdom, and the bald eagle has been nearly rendered extinct in the United States outside of Alaska due to poisoning with pesticides.

- A) Species biodiversity has a number of health benefits for humans
- B) Enacted in 1973, the Endangered Species Act emerged to protect wildlife in the United States.
- C) Using fossil records to determine which species became extinct is a well-established method.
- D) The most prominent current cause is human activity, which brings about loss of habitat for species and also causes pollution.
- E) The protection of endangered species is a very complex and challenging task.

58. Cold storage through refrigeration or freezing makes it possible to extend both the seasons of harvest and the geographic area in which a product is available. ---- But now, modern cold storage technology makes virtually any product available year-round on a global basis. Other technologies have been combined with refrigeration to further improve this availability, such as a sealed room where the air is modified to increase its nitrogen content to keep food fresh.

- A) Time and temperature are the key factors that determine how well foods can retain their properties.
- B) The next step in the cold storage food chain is transport by railroad cars, trucks, airplanes, or boats.
- C) Refrigerated warehouses maintain the temperatures required to assure maintenance of quality.
- D) Food that is placed in cold storage is protected from the degradation that is caused by microorganisms.
- E) Food products were previously grown locally and had to be marketed within a short period of time.

59. Flash floods are floods that occur extremely quickly, usually within several minutes or hours. They cause streams and rivers to rise rapidly and wash over the land, destroying almost everything in their path. Their destructiveness is based on several factors, including rainfall intensity, duration, surface conditions, and slope of the area. --- Mountain regions are also prone to flash flooding, and even deserts and arid regions are vulnerable to flash floods, since many dry regions are known for intense thunderstorms which can produce a lot of rainwater in a short time.

- A) Flash floods are very unpredictable and can occur at any time of the year.
- B) Floodwaters can carry a great deal of sediment and debris, coating the inside and outside of a building.
- C) Flash flooding is considered to be the main reason for deaths associated with thunderstorms, especially when they occur at night.
- D) The destructive potential of flood currents is tremendous as they can cause massive amounts of erosion
- E) Urban areas are the most susceptible to flash floods, since a high percentage of the surface area cannot absorb water.

60. (I) The name 'reptiles' refers collectively to a confused mixture of different animals, such as turtles, crocodiles, lizards, and snakes, that are not birds or mammals. (II) The antique scientific concept reptilia promotes misperception and misunderstanding of history and the diversity of some vertebrates (1) The term 'reptile' is now a deeply established popular name rather than a scientific one. (IV) For much of the later 19th and most of the 20th century, reptilia was taken to mean a group composed of the ancestors of living reptiles. (V) Similarly, the ancestors of all mammals and birds were taken under the term reptilia.

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

61. (I) One can usually see rainbows after summer rains, early in the morning or late in the afternoon, when the sun is low. (II) Diamond-shaped glass objects, mirrors or other transparent items can also be used to form a rainbow. (III) Raindrops act as tiny prisms and disperse the white sunlight into the form of a large beautiful arch composed of visible colours. (IV) To see these colours, one must be located between the sun and raindrops forming an arc in the sky. (V) When sunlight enters the raindrops at the proper angle, it is refracted by the raindrops, then reflected back at an angle that creates a rainbow.

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

62. (I) Dominique-François-Jean Arago was the leading French astronomer for the first half of the 19th century. (II) Among Arago's achievements in astronomy is his discovery of the Sun's chromosphere. (III) The chromosphere is the thin and usually transparent layer of the Sun's atmosphere. (IV) He also offered a pioneering explanation for the twinkling of stars. (V) In addition, Arago conducted research that helped lead one of his assistants, Urbain Jean Joseph Leverrier, to discover the planet Neptune.

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

63. (I) It is estimated that sales of genetically modified (GM) seed in 2015 amounted to \$15.3bn. (II) This was grown in over 20 countries on an area greater than 440 million acres - more than a 100-fold increase since 1996. (III) In 2015, the top five countries in order of area of GM crops cultivated were the USA, Brazil, Argentina, India and Canada. (IV) In contrast, only about 290,000 acres were grown in the EU, all were an insect-resistant variety of maize. (V) Miami was the first to announce that specific genes could be introduced into plant cells, and then whole plants could be generated with only a single altered characteristic.

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

64. (I) Earth's major terrestrial, marine, and freshwater ecosystems are known as biomes. (II) Significant changes in the global environment and climate are causing major shifts in some biomes. (III) They are classified according to similarities in species composition of plants and animals and by environmental attributes. (IV) These include temperature, precipitation, and soil type in terrestrial biomes and temperature, depth, and salinity in aquatic biomes. (V) However, there are no hard boundaries between biomes and there is much intermixing of species between them.

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

65. (I) After 1890, the development, manufacture, and use of glass increased so rapidly as to be almost revolutionary. (II) The science and engineering of glass as a material are now so much better understood that glass can be tailored to meet an exact need. (III) Machinery has been developed for precise, continuous manufacture of sheet glass, tubing, containers, bulbs, and a host of other products. (IV) In the early 1800s, the greatest demand was for window glass. (V) New methods of cutting, welding, sealing, and tempering have also led to the use of glass in completely new fields.

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

YÖKDİL MART 2020 FEN SORULARI

One of the most famous volcanoes may be misunderstood. Carmelo Fertilo, a geologist from Italy, believes the material feeding Mount Etna's cone is mostly water, so it is effectively a giant hot spring. However, most geologists are unconvinced. Mount Etna is almost always active. It may have spewed 70 million tonnes of lava in 2011 alone. What really puzzles the Italian geologist is that Etna also discharges more than 7 million tonnes of steam, carbon dioxide and sulphur dioxide every year. The normal explanation is that gas bubbles out of magma as it moves up the volcano's vent. However, Fertilo claims that Etna would need to erupt ten times more lava than it does to account for all the gas. He also argues that Etna is not just fed by magma. He states that its deep plumbing system could hold lots of water, carbon dioxide and sulphur dioxide. making up about 70 percent of the material feeding the volcano. According to Fertilo, such a system is closer to a spring rather than a volcano. However, according to Kayla Iacovino, there are simpler alternatives. She has argued that the excess gas could come from deep molten rock that does not enter Etna.

66. It can be understood from the passage that most geologists ---

- A) doubt Fertilo's arguments about Mount Etna
- B) have misunderstood Fertilo's claims about Mount Etna
- C) agree with Iacovino as well as Fertilo
- D) claim that Mount Etna is a hot spring
- E) try to provide new findings to support their own claims

67. According to the passage, Fertilo believes that Mount Etna ----

- A) had its largest and most devastating eruption in 2011
- B) erupts ten times more lava than gas
- C) includes some of the characteristics of a hot spring
- D) is the most unpredictable volcano on Earth
- E) can remain inactive for long periods of time

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

- A) The Eruptions of Mount Etna Throughout History
- B) Excess Gas in Mount Etna
- C) What Really Feeds Mount Etna?
- D) Why is Mount Etna Always Active?
- E) The Most Famous Volcanoes on Earth

The science behind growing meat without animals is fairly simple. Growing the cells that form cultured meat is not hugely different from other 'cell culture' methods that biologists have used to study cells since the early 1900s. The process starts with a few 'satellite' cells, which can be obtained from a small sample of muscle taken from a live animal. These are stem cells that can turn into the different cells found in muscle. Just one cell could, in theory, be used to grow an infinite amount of meat. When fed a nutrient rich setum, the cells turn into muscle cells and proliferate, doubling in number roughly every few days. After the cells have multiplied, they are encouraged to form strips, much like how muscle cells form fibres in living tissue. These fibres are attached to a sponge-like scaffold that floods the fibres with nutrients and mechanically stretches them, 'exercising' the muscle cells to increase their size and protein content. The resulting tissue can then be harvested, seasoned, cooked and consumed as boneless processed meat.

69. It is clearly stated in the passage that ---

- A) it is not a must to have a sample cell from a living animal to produce meat
- B) studying cells is a relatively new concept in the current decade
- C) producing meat from a muscle cell in a lab is quite a complicated process
- D) the first step in creating meat is to double the number of muscle cells
- E) growing meat without animals is a process similar to other cell culture methods

70. According to the passage, stem cells ---

- A) are cells that do not have the ability to multiply
- B) are composed of various cells that have different functions
- C) have the ability to transform into different cells in a muscle
- D) need to be attached to other cells to form living tissues
- E) decrease in number at the end of the production process

71. The passage is mainly about ---

- A) the advances in human cell production under scientific intervention
- B) the reasons why cell production may not be practical for common use
- C) different types of cell culture methods used by biologists since the early 1900s
- D) an alternative way of growing meat through unconventional means
- E) some steps followed by scientists to cure animal diseases by producing cells

YÖKDİL MART 2020 FEN SORULARI

River systems are completely changed when dams are built. The main reason is obvious: dams block the channels, altering the water's direction by decreasing or increasing the amount of water that flows through the channel - the defined pathway the water follows. In turn, this modifies or completely changes the river's erosional and depositional characteristics, thus changing the channel's landscape and affecting the local environment. Although there are good reasons for dams (mainly to stop flooding in populated areas), there are often just as many potential problems. One in particular is the erosion that occurs just below the main structure holding back the water. Because sediment is no longer transported within the water (the load is dropped in the reservoir), the water from the spillway often erodes the channel immediately below. Another problem can also arise from the fact that because there is less sediment load, there is also less of a delta being formed at the mouth of a river. For example, the Aswan High Dam along the Nile River in Egypt was finished in 1966, primarily to provide electricity and irrigation. But the water is dammed up in a lake about 280 kilometers long, and this is starving the Nile delta of sediments. Because of this, the currents in the Mediterranean Sea are carrying away more sediment than the river can **replenish** and causing the delta to slowly erode away.

72. According to the passage, dams –

- A) do not affect erosional characteristics of a river as much as depositional ones
- B) provide more beneficial than harmful effects to the local environment
- C) may adversely affect river systems and the local environment
- D) can stop flooding but have no other real benefits
- E) generally increase the amount of water that flows through channels

73. The problem with the Aswan High Dam is that ----

- A) it cannot provide enough electricity
- B) it has a negative impact on the currents in the Mediterranean Sea
- C) sediment is flooding in from the Mediterranean Sea
- D) the people in the Nile region are still facing problems with irrigation
- E) it is reducing the size of the Nile delta

74. The underlined word in the passage 'replenish' is closest in meaning to ---

- A) reduce
- B) ruin
- C) renew
- D) resist
- E) restrict

An 11-year-old boy taps furiously on a laptop, hiding from enemies as he runs through a city. They catch him before he reaches safety - game over. Frustrated, he opens the game's programming window, adjusts the settings, and this time gets past the bullies. Victory! This could be the future of American education. The Quest to Learn' school opened last September in Manhattan, welcoming the first class of sixth-graders who will learn almost entirely through videogame-inspired activities, an educational strategy developed to keep kids engaged and prepare them for high-tech careers. For many years, videogames have outperformed teachers in one key way: They are exceptionally good at engaging kids, which is, in fact, a serious problem for teachers. Videogames drop kids into complex problems where they fail and fail, but they try again and again. When kids face tough problems in school, however, they sometimes just give up, which is why only a third of eighth-graders earn proficient math scores on national assessment tests. The educators behind 'The Quest to Learn' school hope that videogame-based lessons will help to overcome that problem.

75. According to the passage, the introduction of videogame-based lessons into American education system ----

- A) will dramatically help students to find the easiest way to overcome their problems
- B) will encourage many students to have high-tech careers
- C) is necessary to help students adjust to technology
- D) will assist children in dealing with bullies
- E) may negatively affect students' self-confidence since they can fail several times

76. It is stated in the passage that it is a challenge for many teachers to ----

- A) prepare students for high-tech careers
- B) adapt themselves to technological changes
- C) use video games effectively in class
- D) attract and keep students' attention and interest
- E) help students gain new learning strategies

77. The reason why many eighth-graders cannot get proficient math scores is that they ----

- A) spend too much time playing videogames
- B) tend to give up when they face a challenge
- C) are given very complex math problems to solve
- D) mostly take videogame-based lessons that are not aimed at improving their math skills
- E) are not adequately prepared by their teachers

YÖKDİL MART 2020 FEN SORULARI

With its flat landscape, Copenhagen is an unlikely ski destination. But an innovative project called Copenhill aims to pair recreation with renewable energy. Copenhill is a massive facility in the city's industrial area that converts trash to electricity, providing power for 30,000 homes in Copenhagen and heat for more than twice that number. The new structure will eventually include an urban ski park, a climbing wall, and a cafe on its roof with an attractive city view Copenhill is 25 percent more efficient than the other waste-burning facility in Copenhagen and will be able to control its own carbon dioxide emissions, in line with Denmark's ambitious goal to become carbon-neutral by 2050. The idea of burning garbage has its critics, who say waste-to-energy facilities merely reinforce excessive consumerism. But in 2018, Copenhill processed almost 500,000 tons of garbage. That is better than filling up landfills, which are potent sources of methane - a greenhouse gas that can ruin the prospect of anyone's enjoyment.

78. According to the passage, Copenhill ----

- A) will be able to power thousands of homes in many cities across Denmark once construction is complete
- B) will provide several recreational opportunities in the future, such as skiing, climbing and enjoying the city view
- C) will probably not include a cafe at its roof due to high amounts of carbon dioxide in Copenhagen
- D) was built in its current location as it is important to construct recycling facilities in flat areas
- E) will stop functioning as a recycling facility when an urban ski park is built

79. According to the critics of Copenhill, ----

- A) waiting until 2050 to start seeing the possible benefits promised by the new facility is far too long
- B) the other waste-burning facility is more efficient even though it cannot control its carbon dioxide emissions
- C) it may not be possible to convert trash to electricity if an urban ski park is integrated into the facility
- D) the facility is going to result in methane increases in landfills, which will ruin the environment
- E) recycling waste in order to produce power is not reasonable because it promotes high consumption

80. What is the author's attitude towards Copenhill?

- A) Supportive
- B) Critical
- C) Doubtful
- D) Neutral
- E) Ignorant

2020 MART YÖKDİL FEN CEVAP ANAHTARI

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