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İNGİLİZCE

FEN BİLİMLERİ TESTİ

2009-ÜDS Sonbahar / İNG-Fen Bil.

1. – 18. sorularda, cümlede boş bırakılan yerlere uygun düşen sözcük ya da ifadeyi bulunuz.

1. The cells of all living organisms have the ---- to harvest energy from the breakdown of organic fuel molecules.
- A) amount B) clarity
C) performance D) reliance
E) ability
2. Bacteria are truly remarkable in terms of their adaptations to extreme environments and their abilities to survive in parts of Earth that are ---- to other forms of life.
- A) distasteful B) cordial
C) inhospitable D) persuasive
E) discreet
3. In December 1831, at the age of 22, Darwin began a round-the-world sea voyage that ---- influenced his thinking.
- A) obscurely B) legitimately C) hopefully
D) respectfully E) profoundly
4. All organisms have some capacity to adapt to environmental changes, but the extent of this adaptive capacity ---- greatly.
- A) executes B) varies C) discards
D) abolishes E) merges

5. The geological history of the Grand Canyon region ---- to be a lot more complex than previously thought when scientists examined the area in more detail.
- A) put off B) gave up
C) brought about D) turned out
E) set out
6. Most space rockets plunge into the oceans or become space litter when they are ---- completely.
- A) taken up B) fallen out C) given out
D) made up E) used up
7. Scientists ---- that by the year 2050, robot brains based on computers that have the ability to execute 100 trillion instructions per second ---- rivalling human intelligence.
- A) are predicting / are starting
B) have predicted / would start
C) predicted / would have started
D) predict / will start
E) would predict / will have started

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8. NASA ---- experiments on the surface of the moon for eight years when they ---- them down in 1977 for financial reasons.

- A) conducted / would have to shut
- B) has been conducting / have to shut
- C) had been conducting / had to shut
- D) was conducting / have had to shut
- E) would have conducted / would have had to shut

9. It is predicted that the world's fossil fuel sources ---- completely by the turn of the century unless strict policies to use them wisely ---- at present, before it is too late.

- A) will have been exhausted / are implemented
- B) will be exhausted / would be implemented
- C) would be exhausted / would have been implemented
- D) would have been exhausted / were implemented
- E) were exhausted / were to be implemented

10. If microchips ---- back in the late 1950s, computer technology ---- as advanced as it is today.

- A) weren't developed / isn't
- B) hadn't been developed / wouldn't be
- C) wouldn't have been developed / weren't
- D) wouldn't be developed / wouldn't be
- E) weren't being developed / won't be

11. It is hoped that alternative forms of energy, such as wind energy and geothermal energy, ---- more widely used in the near future, once technical problems ---- completely resolved.

- A) become / had been
- B) are becoming / will be
- C) will become / are
- D) have become / were
- E) would have become / have been

12. Insects that live in colonies, such as ants, bees, wasps, and termites, have long fascinated everyone, ---- naturalists ---- artists.

- A) among / with
- B) about / between
- C) in / of
- D) between / above
- E) from / to

13. A gene giving humans a preference ---- sweet foods was recently identified ---- researchers.

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

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14. The existence of galaxies was not recognized until the early 20th century, ---- since then galaxies have become one of the focal points of astronomical investigation.

- A) even B) because C) but
D) if E) whether

15. A gemstone used in the making of jewellery must be durable, ---- it cannot withstand the process of being handled or shaped.

- A) thus B) even if C) although
D) or else E) while

16. ---- it has a great potential for creating new organisms, experimental recombination of genes is viewed by some scientists as dangerous and unethical.

- A) As long as B) Unless
C) Just as D) Before
E) Because

17. ---- does geology provide a better understanding of the Earth's evolution and its present features, but it also serves society in a variety of practical ways.

- A) Either B) So C) Not only
D) So long as E) Not once

18. Geometry, ---- name is derived from Greek words meaning "earth measurement," is one of the oldest branches of mathematics.

- A) as B) which C) that
D) whose E) its

19. – 23. sorularda, aşağıdaki parçada numaralanmış yerlere uygun düşen sözcük ya da ifadeyi bulunuz.

Air pollution is one of the major challenges that most major cities face. The task of cleaning up air pollution, (19)---- difficult, is not believed to be insurmountable. Use of fuels that are low in pollutants, such as low-sulphur forms of petroleum; more complete burning of fossil fuels, often in (20)---- with a recycling of the pollutants; and the shift to less polluting forms of power generation, such as solar energy (21)---- place of fossil fuels – all are methods that can be used for controlling pollution. Over the past few decades, the example of London as well as of some other cities (22)---- that 10 years or less is enough to control this problem to a certain extent. In fact, this period is (23)---- enough to achieve major improvements in air quality.

19.

- A) though B) as if C) unless
D) whether E) in case

20.

- A) discrimination B) combination
C) purification D) authorization
E) utilization

21.

- A) over B) at C) for
D) by E) in

22.

- A) had shown
B) would have shown
C) will have shown
D) has shown
E) was showing

23.

- A) nor B) either C) as well as
D) neither E) also

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24. – 35. sorularda, verilen cümleyi uygun şekilde tamamlayan ifadeyi bulunuz.

24. Whereas ordinary solids have a definite size and shape, ----.

- A) most liquids do, too
- B) gases have none
- C) their volumes are definite, as well
- D) liquids don't take the form of the container
- E) gases consist of a vast number of molecules

25. Although rain forests occupy a very small percentage of the land surface on Earth, ----.

- A) it is true that, in addition to high rainfall and humidity, mild winters are good for them
- B) most governments have introduced severe measures to stop and eliminate environmental pollution
- C) they contain a very large variety of plant and animal species that are mostly rare
- D) many species living in those areas are faced with the threat of extinction
- E) the Brazilian government has long-term plans to open up the Amazon basin for mining

26. ----, but a significant part of this land is unsuitable for either agriculture or habitation.

- A) China's first nature reserve was established in the 1950s
- B) China is located in Far East Asia
- C) The population of China has been increasing dramatically
- D) One of China's major problems is environmental pollution
- E) China covers a vast area in Asia

27. Experts fear that, unless significantly higher yields are achieved with genetically modified (GM) crops, ----.

- A) genetic engineers are determined to continue to work on crops that can grow in a shorter period of time
- B) these trends led to economic development and a significant reduction in global hunger and poverty
- C) certain circles are concerned about the possible negative effects of GM crops on human health
- D) massive environmental degradation will be the inevitable result of trying to feed the world's increasing population
- E) the impacts of climate change on agriculture will not be fully understood in the years ahead

28. ----, which, in turn, makes animal husbandry more profitable than it used to be in the past.

- A) People with rising incomes consume more meat and livestock products
- B) The world's poor have been getting poorer and less able to produce food
- C) Much of the world's starving population lives in the sub-Saharan region, where farming is poor
- D) Debate continues over whether climate change will further reduce the world's ability to feed itself
- E) Most countries in Africa need to invest more in their agriculture sectors

29. Physicists have established that, before the universe existed in its present form, ----.

- A) the Milky Way is one of billions of galaxies in the universe
- B) astronomy attracted many high school students to study it in depth
- C) all of its matter was concentrated in one mass
- D) they knew what to look for
- E) their existence would not have been questionable

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30. Experts differ greatly in their estimates of the number of plant and animal species, ----.

- A) since the exact number of these species has only recently been identified
- B) but they all agree that the distribution of these species is highly uneven
- C) in case many of the currently endangered species go extinct in the near future
- D) unless they focus their attention on those species that have increased in number
- E) despite the fact that the populations of certain species have soared dramatically

31. Atoms have several properties ----.

- A) in case they have different numbers of protons and electrons
- B) in which they are the smallest particles of all matter
- C) that help distinguish one type of atom from another
- D) because physicists have split the atom into many subatomic particles
- E) while the electrons in an atom are very much smaller than the protons and neutrons

32. Quantum theory specifies new rules for describing the universe, ----.

- A) although efforts to explore it are continuing
- B) as it is considered an ancient science
- C) unless the universe cannot be described with the help of its principles
- D) just as it has introduced new ways of thinking about matter and energy
- E) for it has not been proven or validated scientifically

33. Climatologists are not certain about the number of hurricanes that occurred worldwide before 1970, ----.

- A) although the historical data are too inconsistent to allow firm conclusions
- B) given that sea-surface temperatures are a key driver of hurricane formation
- C) since an unprecedented four hurricanes hit Florida in the summer of 2004
- D) which global warming has led to more intense storms
- E) when satellite observations became routine

34. Some of the world's natural resources, such as natural vegetation and solar energy, are renewable, ----.

- A) which cannot be renewed easily at a low cost
- B) while others like fossil fuels are non-renewable
- C) since they are not reliable sources of energy
- D) if conserving them is not possible
- E) some of which are non-renewable

35. New bioplastics are a lot less hazardous to our planet and our natural resources, ----.

- A) even though their reserves are gradually shrinking due to increasing use by industries
- B) as plastics cannot be degraded biologically like organic materials
- C) since they require less oil and energy to produce than traditional plastics
- D) so traditional plastics are used in a wide range of industries, including textiles and packaging
- E) for the damaging effects of plastic waste on the environment are undeniable

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36. – 38. sorularda, verilen İngilizce cümleye anlamca en yakın Türkçe cümleyi bulunuz.

36. According to some physicists, the universe is just a little lighter than a black hole of the same size.

- A) Bazı fizikçilere göre, bir kara delik, aynı boyuttaki evrenden sadece biraz daha ağırdır.
- B) Bazı fizikçiler, evrenin, aynı büyüklükteki bir kara delikten, sadece biraz daha hafif olduğunu öne sürmektedirler.
- C) Bazı fizikçiler, evrenin, aynı boyuttaki bir kara delik kadar hafif olduğunu varsaymaktadırlar.
- D) Bazı fizikçilere göre, evrenin ağırlığı, aynı boyuttaki bir kara deliğin ağırlığını geçmemektedir.
- E) Bazı fizikçilere göre, evren, aynı boyuttaki bir kara delikten yalnızca biraz daha hafiftir.

37. The discovery in Japan of a 130-million-year-old lizard fossil may re-determine the date when flowering plants are believed to have emerged on Earth.

- A) Çiçekli bitkilerin yeryüzünde ortaya çıktığı tarihin yeniden belirlenmesi, Japonya'da 130 milyon yaşında bir kertenkele fosilinin keşfiyle gerçekleşmiştir.
- B) Japonya'da 130 milyon yaşında bir kertenkele fosili keşfedildikten sonra, çiçekli bitkilerin yeryüzünde ortaya çıktığına inanılan tarih yeniden belirlenmiştir.
- C) Japonya'da 130 milyon yaşında bir kertenkele fosilinin keşfi, çiçekli bitkilerin yeryüzünde ortaya çıktığına inanılan tarihi yeniden belirleyebilir.
- D) Japonya'da 130 milyon yaşında bir kertenkele fosilinin keşfedilmesinden önce, çiçekli bitkilerin yeryüzünde daha yakın bir zamanda ortaya çıktığına inanılıyordu.
- E) Japonya'da 130 milyon yaşında bir kertenkele fosilinin keşfedilmesiyle, çiçekli bitkilerin yeryüzünde ortaya çıktığına inanılan tarih yeniden belirlenmiştir.

38. With an estimated 200,000 species of plants and animals, Madagascar is among the top five most biologically diverse countries in the world.

- A) Aşağı yukarı 200.000 bitki ve hayvan türüne sahip olan Madagaskar, biyolojik çeşitliliği en fazla olan dünyadaki ilk beş ülkeden biridir.
- B) Biyolojik çeşitlilik bakımından dünyanın en önemli beş ülkesinden biri olan Madagaskar, tahminî olarak 200.000 bitki ve hayvan türüne sahiptir.
- C) Madagaskar'ın sahip olduğu bitki ve hayvan türü 200.000 civarındadır ve böylece dünyada biyolojik çeşitliliği en zengin olan ilk beş ülke arasındadır.
- D) Madagaskar, gerek zengin biyolojik çeşitliliği ve gerek sahip olduğu 200.000 civarındaki bitki ve hayvan türüyle, dünyanın ilk beş ülkesi arasında yer almaktadır.
- E) Tahminî 200.000 bitki ve hayvan türüyle, Madagaskar, dünyada, biyolojik olarak en çok çeşitliliğe sahip, ilk beş ülke arasındadır.

39. – 41. sorularda, verilen Türkçe cümleye anlamca en yakın İngilizce cümleyi bulunuz.

39. X-ışını görüntüleme yöntemleri, kırıkların tanınmasını bir yüzyıldan fazla zamandır daha kolay kılmıştır, ancak X-ışınları, her zaman daha ince ayrıntıların saptanmasında yardımcı olamaz.

- A) Although the diagnosis of fractures has been easier for over a century, thanks to X-ray imaging methods, X-rays do not always help to detect the finer details.
- B) X-ray imaging methods have made diagnosing fractures easier for more than a century, but X-rays cannot always help to detect the finer details.
- C) For over a century, it has been much easier to diagnose fractures thanks to X-ray imaging methods, even though X-rays fail to detect the intricate parts.
- D) X-rays have helped to detect the inner parts of fractures, and, therefore, the diagnosis of fractures has been much easier for over a century.
- E) Thanks to X-ray imaging methods, the diagnosis of fractures has been possible for more than a century, but the details of fractures cannot always be detected fully.

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40. Her element, diğer bir elementin atomlarından farklı, tek tip atomdan oluşur.

- A) An element contains only one type of atom, entirely different from other atoms.
- B) The kind of atom that makes up an element is usually different from the atoms of other elements.
- C) Each element consists of one kind of atom, which is different from the atoms of any other element.
- D) The atoms that each element has are completely different from those of other elements.
- E) Each element has one set of atoms which are very different from the atoms of all the other elements.

41. Çin'deki sanayileşme, öyle büyük çevresel değişikliklere yol açmıştır ki fabrikaların yarattığı kirlilik dağlık alanlardaki yağışı, yüzde 50'ye varan miktarda düşürmüştür.

- A) Industrialization in China has brought about such massive environmental changes that pollution created by factories has reduced the rainfall in mountainous areas by as much as 50 per cent.
- B) Massive environmental changes in China have resulted from industrialization, and, consequently, the rainfall in mountainous areas has dropped as much as 50 per cent due to the pollution caused by factories.
- C) The amount of the rainfall in the mountainous areas in China has fallen by as much as 50 per cent because of the pollution caused by factories, as massive industrialization led to environmental changes.
- D) Industrialization in China has caused so much environmental change that the amount of the rainfall in the country's mountainous areas has fallen 50 per cent due to the pollution brought about by factories.
- E) China's industrialization has led to extensive environmental changes – so much so that, because of the pollution caused by factories, the rainfall in mountainous areas has dropped to 50 per cent.

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42. – 46. sorularda, boş bırakılan yere, parçada anlam bütünlüğünü sağlamak için getirilebilecek cümleyi bulunuz.

42. **Photosynthesis, the process by which green plants and certain other organisms use the energy of light to convert carbon dioxide and water into simple sugar glucose, occurs in green plants, seaweeds, algae, and certain bacteria. These organisms are veritable sugar factories, producing millions of new glucose molecules per second. ---- Some plants produce more glucose than they use, however, and they store it in the form of starch and other carbohydrates in their roots, stems, and leaves.**

- A) The sugar we use in our everyday lives is derived from plants like sugar cane and is processed in factories.
- B) An extremely important by-product of photosynthesis is oxygen, on which most organisms depend.
- C) Being unable to produce it, humans and other animals rely on the glucose produced by these organisms.
- D) Plants use much of this glucose as an energy source to build leaves, flowers, fruits, and seeds.
- E) In plants, photosynthesis occurs in leaves and green stems within specialized cell structures called "chloroplasts".

43. **Insects are often regarded as pests because some bite, sting, spread diseases, or compete with humans over crop plants. ---- Without insects to pollinate flowers, the human race would soon run out of food because many of the crop plants that we rely on would not be able to reproduce. In addition, insects themselves are valued as food in many parts of the world. Also, they help to recycle organic matter by feeding on wastes and on dead plants and animals.**

- A) Therefore, humans use chemicals to get rid of harmful plants growing among agricultural crops.
- B) Scientists have so far been able to identify about one million species of insects.
- C) Nevertheless, they are of undeniably great value to nature and to humans.
- D) Pollination is the process by which most plants reproduce, but there are exceptions.
- E) While some insects protect themselves with their poison, others use camouflage.

44. **---- As a residential fuel, it is burned in furnaces, water heaters, cooking stoves, and clothes dryers. As an industrial fuel, it is burned in special furnaces to bake bricks and ceramic tiles and to produce cement. In addition to its use as a fuel, natural gas serves as a raw material for creating petrochemicals, which are used as a base product for fertilizers, detergents, pharmaceuticals, plastics, and numerous other goods.**

- A) Historical records show that natural gas was burned as a fuel as early as 250 A.D. in China.
- B) There is a growing concern among developed nations about the future availability of energy sources.
- C) Among the most common residential fuels are natural gas, coal, and bottled butane and propane.
- D) Natural gas is used both as a fuel and as a raw material in the manufacture of chemicals.
- E) The use of fossil fuels is generally regarded as harmful to the environment, since it is a major cause of global warming.

45. **Ecology is the study of the relationship of plants and animals to their physical and biological environment. The physical environment includes light and heat or solar radiation, moisture, wind, nutrients in soil, water, and atmosphere. The biological environment includes organisms of the same kind as well as other plants and animals. ---- For this reason, it draws upon such fields as climatology, hydrology, oceanography, physics, chemistry, geology, and soil analysis as well as animal behaviour, taxonomy, physiology, and mathematics.**

- A) Different kinds of organisms often share the same environment, which makes the relationship between them significant.
- B) However, due to the climate and other natural factors, physical and biological environments show great diversity in the world.
- C) An increased public awareness of environmental problems has made ecology a common but often misused word.
- D) Our understanding of environmental problems has increased by a very large extent over the last few decades.
- E) Although the field is a distinct scientific discipline, it has a close relationship with other disciplines.

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46. The principle of all the sciences, including physics, is generally considered to be the ordering of the complex appearances detected by our senses. In other words, this is the ordering of what we often refer to as the "world around us". In fact, many people think of science as a mechanical process of collecting facts. ----
Essentially, science is a creative activity that in many respects resembles other creative activities of the human mind.

- A) This is not the case at all.
- B) Aristotle believed that the natural state of an object is to be at rest.
- C) It was Galileo who founded our modern view of motion.
- D) As a result of Einstein's theory of relativity, our concepts of space and time have been completely altered.
- E) The list of ways in which physics, for example, relates to other fields is extensive.

47. – 51. sorularda, karşılıklı konuşmanın boş bırakılan kısmını tamamlayabilecek ifadeyi bulunuz.

47. Joseph:
- I read that Taiwanese researchers have developed a motorcycle that runs on compressed air.

Maria:
- **So, what's so special about it?**

Joseph:
- ----

Maria:
- **Oh, then it really is a significant invention.**

- A) The prototype has not aroused much interest among the public yet.
- B) It requires electricity to compress the air.
- C) Well, it could help to solve the problem of pollution.
- D) Actually, they have been working on it for quite some time.
- E) Well, they might soon start mass producing them.

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48. Customer:
- **I'd like to buy a good camera for a reasonable price. What would you recommend?**
- Shop assistant:
- **Well, we have this professional series, with which you can get extra high-resolution images and at least three types of lenses. Their prices start from \$3,000.**
- Customer:
- ----
- Shop assistant:
- **Then, maybe you'd consider one from this series, which comes with only the standard lens, but can be upgraded when necessary. Plus, they provide equally high-resolution images.**
- A) Oh, I didn't expect that they would be so simple.
B) Actually, photography has been a major interest of mine for a long time.
C) I can see you are very informed about cameras.
D) Oh, I don't think I want something so professional.
E) Well, that really is a good value.

49. Thomas:
- **Did you know that *e. coli*, the bacteria that upsets stomachs and kills people, can actually be useful?**
- Julie:
- **How so?**
- Thomas:
- ----
- Julie:
- **Wow! That means it is going to serve as an alternative energy source.**
- A) You know, it is actually present in the intestines.
B) Well, scientists have genetically engineered it to excrete biodiesel.
C) It obtains the energy it needs from the intestinal flora.
D) The new method involves mixing the bacteria with sugar cane.
E) The newly-developed biodiesel is not as efficient as a fossil fuel.

50. Jeffrey:
- **The swine flu outbreak seems to have emerged without warning, don't you think?**
- Nathan:
- **Yes, you have a point. But I think the virus existed for some time before it was discovered.**
- Jeffrey:
- ----
- Nathan:
- **The answer is likely "yes", if more attention had been paid to the human-animal interactions that enable new viruses to emerge.**
- A) Do you think governments have taken the necessary measures against it?
B) Could there be a more effective way of monitoring the course of the disease?
C) Do you think the world faces more pandemics like this one?
D) Couldn't it have been detected and the spread of it prevented?
E) Do you think vaccination against such pandemics would solve the problem?

51. Peter:
- **Weren't you thinking of getting a new job as a laboratory assistant? Well, here is an advertisement.**
- Joanna:
- **Oh, I have already seen that one, but I'm not the one they are looking for.**
- Peter:
- ----
- Joanna:
- **Yes, all but a very important one. I'm not a British citizen.**
- A) Don't you want to work in Britain?
B) But why? You meet all the requirements.
C) Why? Don't you have a licence to work as a lab assistant?
D) Are they looking for better qualified people?
E) You're wrong; I'm sure they don't care about citizenship.

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52. – 56. sorularda, cümleler sırasıyla okunduğunda parçanın anlam bütünlüğünü bozan cümleyi bulunuz.

52. (I) The Anacostia River, which flows through the heart of Washington, DC, is just one of dozens of severely polluted rivers in the US. (II) It is contaminated with the molecular remnants of dyes, plastics, asphalt, and pesticides. (III) Recent tests have shown that up to 68% of the river's brown bullhead catfish suffer from liver cancer. (IV) Water pollution comes from many sources, such as wastewater from textile and pulp mills, agricultural waste, and residential sewage. (V) Wildlife officials recommend that anyone who catches the river's fish toss them back uneaten, and swimming has been banned.

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

53. (I) Weight, lift, thrust, and drag are the four primary sources acting upon an airplane. (II) Since the 1950s, aircraft technology has developed at an amazing speed, making especially great advances in thrust. (III) Weight, which is the force caused by gravity, is also the force that offsets lift, which is the upward force on the plane, because it acts in the opposite direction. (IV) Thrust, which is provided by a propeller or a jet engine, or a combination of the two, is the force that pushes the airplane forward in the air. (V) The fourth force, drag, is created by the friction that the airplane produces when moving through the air.

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

54. (I) Volcanic eruptions in populated regions are a significant threat to people, property, and agriculture. (II) The danger is mostly from fast-moving hot flows of explosively erupted materials, falling ash, and highly destructive flows of lava and volcanic debris. (III) On the contrary, they can also be rich in natural resources, especially with the materials that they erupt. (IV) In addition, explosive eruptions, even from volcanoes in unpopulated regions, can eject ash high into the atmosphere, posing a danger to distant populations. (V) Such explosions also create drifting volcanic ash clouds that represent a serious hazard to airplanes.

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

55. (I) Water vapour is the most common greenhouse gas in the atmosphere, accounting for about 60 to 70 per cent of the natural greenhouse effect. (II) Humans do not have a direct effect on water vapour levels in the atmosphere. (III) But human activities do increase the concentration of other greenhouse gases in the atmosphere, producing warmer temperatures. (IV) Indeed, global warming has now become one of the most passionately argued issues of our time. (V) This results in an increase in the evaporation of oceans, lakes, and rivers, raising the amount of water vapour in the atmosphere.

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

56. (I) For a long time, science was more or less a united whole known as "natural philosophy," and wasn't that far removed from art. (II) Then, in the 18th century, the distinctions between the scientific fields began to appear. (III) Later, in the 19th century, to take two examples, physics and chemistry went their separate ways. (IV) Actually, several physicists in the 1930s and 1940s tried to apply their knowledge to microbiology. (V) So, the sharp border that we now see between the arts and sciences is but only a few centuries old.

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

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57. – 60. soruları aşağıdaki parçaya göre cevaplayınız.

Palaeontology was once limited to digging up fossils and trying to deduce their age with inaccurate methods. However, fossil analysis improved dramatically in the 1960s, with the advent and refinement of two techniques: radiometric dating and stratigraphy. The first radiometric method was also known as carbon-14 dating, and it was usable for specimens younger than 50,000 years. Later, potassium-argon dating revolutionized the field by enabling scientists to detect the radioactive decay of elements found naturally in rocks and soil surrounding much older fossils. Stratigraphy, which is the study of rock layering, actually was developed well before the 1960s, but that was the decade scientists began to better understand how geological conditions, earthen layers, and fossil records all relate. The resulting refinement of biostratigraphy, i.e., the study of the complete life of a stratum of earth, allowed scientists to determine the environment and lifestyle of human ancestors based on fossilized flora and fauna found within the same layer as the hominine fossils. Since the 1960s, DNA testing has come to be used widely. As all living organisms have the same genetic code, scientists can use DNA variations as a molecular clock. After splitting with a common ancestor, each generation develops a constant rate of genetic mutations. The molecular clock allows scientists to calculate how long ago the split occurred based on the number of differences between species. The method is now helping scientists map the routes that humans took out of Africa.

57. It can be understood from the passage that the carbon-14 method ----.

- A) involves the use of radioactivity to make fossils decay
- B) can be used to date fossils of any age
- C) revolutionized potassium-argon dating
- D) was no longer practiced after the 1960s
- E) was the earliest form of radiometric dating

58. It is clearly stressed in the passage that, before the development of different dating methods, ----.

- A) the molecular clock was used by scientists to determine the age of fossils
- B) the age of fossils could not be determined reliably
- C) palaeontology was regarded as a field of study that was only concerned with the excavation of fossils
- D) it was impossible to know whether Africa was the home of the first human beings
- E) only the age of fossils which were older than 50,000 years could be determined accurately

59. According to the passage, stratigraphy ----.

- A) helped scientists to understand the relationship among only fossil records
- B) deals mainly with vegetative life in a given region
- C) started to be used in the study of fossils long after its emergence as a science
- D) later established the basis for DNA dating
- E) allowed scientists to refine the methods of biostratigraphy

60. The passage is mainly concerned with ----.

- A) the advanced methods palaeontologists use to date fossils
- B) how palaeontology came to be recognized as a field of science
- C) recent advances made in the study of genetic mutations
- D) the development of DNA testing and its use in deciphering the genetic code
- E) the relationship between humans and the environment they live in

Diğer sayfaya geçiniz.

A

2009-ÜDS Sonbahar / İNG-Fen Bil.

61. – 64. soruları aşağıdaki parçaya göre cevaplayınız.

Baleen whales and toothed whales each have a unique way of vocalizing. Only baleen whales produce long sequences of deep sounds known as whale songs. They have a larynx, an organ at the top of the trachea, which may be involved in sound production. Researchers are unclear about the organ's role in the songs as whale larynxes are unlike those of humans, which have vocal chords. Toothed whales, on the other hand, rely on sequences of high-pitched clicks and whistles for both echo location and communication with their mates. Their phonic lips, a structure analogous to human nasal passages, press together when air is forced through them, vibrating the surrounding tissue. The sound waves then penetrate an oily organ in the whale's head, called the "melon", where they are focused into a beam of sound. When this beam strikes a fish, the seabed, or another object, the sound is reflected back to the whale as an echo. Toothed whales can thus locate prey and navigate in total darkness. However, during their long, deep dives, toothed whales cannot inhale air every time they want to produce a sound. So they collect it in a sac at the back of their head and reuse it.

61. It is pointed out in the passage that there is some uncertainty as to ----.

- A) why both baleen and toothed whales use sounds in order to find their ways
- B) whether toothed whales can travel long distances in the sea without inhaling fresh air
- C) how a baleen whale's phonic lips function in the production of sound
- D) how baleen whales produce sound
- E) how far whale songs travel in the sea when whales communicate with their mates

62. According to the passage, baleen whales are different from toothed whales because they ----.

- A) use their trachea to produce sounds
- B) communicate with other whales through whistles
- C) can dive to immeasurable depths and find their ways in full darkness
- D) are much more efficient in locating feeding areas in the sea
- E) produce what is called the "whale song"

63. It is clear from the passage that toothed whales ----.

- A) can hardly find where their prey is located
- B) navigate through the echoes of the sounds they make
- C) often come up to the sea surface to inhale enough air
- D) generally swim close to the seabed while they are hunting
- E) are better hunters than baleen whales, especially in deep waters

64. The passage ----.

- A) doesn't explain clearly how toothed whales vocalize
- B) gives a full account of the study researchers have made of baleen whales
- C) focuses more on toothed whales than on baleen whales
- D) points out the similarities of sound production in whales and human beings
- E) describes in detail how toothed whales hunt in total darkness

Diğer sayfaya geçiniz.

A

2009-ÜDS Sonbahar / İNG-Fen Bil.

65. – 68. soruları aşağıdaki parçaya göre cevaplayınız.

The human population continues to grow by more than 75 million people annually. Since the first Earth Day in 1970, emission rates have remained steady at about 1.2 metric tons of carbon per person per year. Unfortunately, the 1997 Kyoto Protocol has had little measurable effect on these per-capita emissions, even in the countries that have agreed to national targets. More than any other factor, population growth drives rising carbon emissions, and the US Census Bureau and United Nations both project that the global population, currently 6.6 billion, will surpass 9 billion before 2050. The implication is that one of the best strategies for reducing future greenhouse gas emissions is population stabilization, as quickly as can be achieved by noncoercive means.

65. It is suggested in the passage that one feasible way of reducing greenhouse gas emissions in the future ----.

- A) may be through the control of population growth
- B) is through the enlargement of the measures included in the 1997 Kyoto Protocol
- C) will be through the assignment of more responsibility to the United Nations
- D) can best be found through cooperation among all the countries in the world
- E) depends to a large extent on the revision of the 1997 Kyoto Protocol

66. One understands from the passage that the 1997 Kyoto Protocol ----.

- A) was originally inspired by the celebration of Earth Day in 1970
- B) can be considered a major achievement by the United Nations and the United States
- C) does contain a set of extremely harsh sanctions on gas emissions
- D) has been most effective in the reduction of greenhouse gas emissions
- E) has been largely disregarded by the countries that have signed it

67. It is emphasized in the passage that annual population growth in the world ----.

- A) can be reduced effectively through the implementation of the Kyoto Protocol
- B) has the effect of raising the amount of carbon emissions
- C) plays no role in the increase in greenhouse gas emissions
- D) is constantly watched by the US Census Bureau so that it can be kept stable
- E) has alarmed many countries and forced them to take measures to prevent it

68. As claimed in the passage, by 2050, the world's population will ----.

- A) increase by more than half
- B) definitely reach a stable level
- C) cease to have any effect on gas emissions
- D) have a much lower growth rate
- E) decrease by 75 million people per year

Diğer sayfaya geçiniz.

69. – 72. soruları aşağıdaki parçaya göre cevaplayınız.

Scientists are exploring ways of producing spider silk artificially, a process difficult to repeat effectively. A spider's silk gland is a very efficient chemical factory. Inside its gland, the spider stores a mixture of liquid proteins, which it is able to transform into light, strong fibres. Artificial spider silk could have many applications, from lightweight and durable packing materials to parachutes, surgical sutures, and even bullet-proof vests. Producing it synthetically is a two-part process: scientists must first manufacture the proteins and then find a way to form them into superfine threads. They have had success with the first part, by producing proteins through genetic modification. Binding proteins into fibres as thin and strong as spider silk, however, has proved to be a challenge. Recently, however, a group of German scientists have attempted to solve that problem by using a device modelled on a spider's glands. Like the arachnid method, the proteins are mixed with potassium phosphate, and then the pH is lowered before pressure is applied as the mixture flows through tiny channels, hardening and binding the proteins. So far, researchers have been able to make fibres of only a fraction of an inch long, but they hope to be able to produce longer, stronger fibres in the future.

69. As stressed in the passage, with regard to the production of artificial spider silk, the main problem is ----.

- A) the difficulty in mixing proteins with potassium phosphate
- B) that scientists are not seriously interested in it
- C) how to make fibres as fine and long as natural spider silk
- D) whether the material can be used for various purposes
- E) whether it can be commercially and technologically viable

70. According to the passage, artificial spider silk ----.

- A) could have various uses in industry
- B) is produced only in chemical factories
- C) is commonly known as a very profitable product
- D) is a material that has already had a wide range of applications
- E) is currently being produced in threads longer than an inch

71. It is clear from the passage that natural spider silk is produced ----.

- A) in large quantities for use in the production of various materials
- B) only when the spider's silk gland has stored enough liquid proteins
- C) shortly before the spider's silk gland undergoes a chemical reaction
- D) through the transformation in the spider's silk gland of liquid proteins into fibres
- E) even though the spider's silk gland fails to have an adequate amount of liquid protein mixture

72. It is pointed out in the passage that, in making synthetic silk, scientists have so far been successful in ----.

- A) imitating the entire natural process of silk production
- B) producing fibres suitable for parachutes and bullet-proof vests
- C) understanding the importance of proteins
- D) producing artificial fibres about an inch in thickness
- E) obtaining the necessary proteins through genetic modification

Diğer sayfaya geçiniz.

A

2009-ÜDS Sonbahar / İNG-Fen Bil.

73. – 76. soruları aşağıdaki parçaya göre cevaplayınız.

An organism discovered deep in the ground has taken astrobiologists by surprise. The organism's unique ability to live in complete isolation from other species, or even light or oxygen, suggests it could be the key to life on other planets. It was discovered in fluid-filled cracks in a South African gold mine, nearly three kilometres beneath the Earth's surface. When US scientists analyzed the fluid, they expected to find genes from a mix of species. Instead, they found that 99.9 per cent of the DNA belonged to just one bacterium, a previously unknown species. Such a self-sufficient organism is virtually unheard of. It means that this organism extracts everything it needs from an otherwise dead environment. Almost all other known organisms on the Earth that do not use sunlight directly do use some product of photosynthesis. However, this newly-found organism gets its energy from the radioactive decay of uranium in the surrounding rocks. It also has genes to extract carbon and nitrogen from its environment, both of which are essential for making proteins. Scientists believe that this organism is just the type that could survive on a planet other than the Earth.

73. As suggested in the passage, for scientists, the newly-discovered organism ----.

- A) can be useful in preventing environmental deformation
- B) is unique only to Africa's ecosystem
- C) can provide clues about life on other planets
- D) seems to reveal the beginnings of life on the Earth
- E) can survive only in an environment where there is plenty of protein

74. According to the passage, upon the analysis of the fluid found in a South African gold mine, scientists have learned that ----.

- A) proteins discovered in it were made through carbon and nitrogen
- B) it contained only one type of organism, unlike any of those already known
- C) the Earth and other planets have similar environmental conditions
- D) the radioactive effects of uranium can be seen very deep down in the Earth
- E) all kinds of organisms can be found not only on the Earth but also on other planets

75. It is clear from the passage that what makes the newly-found organism unique is that it ----.

- A) lives in an environment that lacks any kind of organic life
- B) can survive only through photosynthesis
- C) feeds on the remains of dead organisms
- D) does not have to produce proteins
- E) exists only in the depths of the Earth

76. One understands from the passage that astrobiologists ----.

- A) have focused all their efforts on the search for life on other planets
- B) regard organisms as indispensable for the solution of environmental problems
- C) were astonished by the discovery of so unusual an organism in the depths of the Earth
- D) have now shifted their attention to the study of organisms deep in the Earth
- E) have been particularly interested in the DNA structure of a large variety of organisms

Diğer sayfaya geçiniz.

A

2009-ÜDS Sonbahar / İNG-Fen Bil.

77. – 80. soruları aşağıdaki parçaya göre cevaplayınız.

A scientific view of something is always an intimate mixture of theories and observed facts. The theories are broad, general ideas together with arguments based on them. The arguments are designed to show that, if the general ideas are accepted, then this or the other thing ought to be observed. If this, that, or the other actually is observed, then the theory is a good one; if not, then the theoreticians have to think again. Thus, theoretical ideas and arguments are continually subjected to the severe test of comparison with the facts, and scientists are proud of the strictness with which this is done. On the other hand, theories often suggest new things to look for; in other words, they lead to predictions. These predictions are frequently successful, and scientists are entitled to be proud of that, too. But it follows that no theory is immutable; any scientific view of any subject may, in principle, be invalidated at any time by the discovery of new facts.

77. The point made in the passage is that theories are subject to revision or may lose their validity ----.

- A) if and when new facts are brought to light
- B) so long as they are not supported through arguments
- C) because the arguments about them are not based on facts
- D) even though they have been tested and compared with facts
- E) due to the fact that most of the observations they are based on cannot be tested

78. It is asserted in the passage that, when something is understood scientifically, ----.

- A) it shows how essentially the theory rather than the observation is important
- B) this involves not only the relevant theory but also an observation of facts themselves
- C) this means the rejection of the arguments put forward against it
- D) the predictions made so far lose their significance and are not taken into consideration
- E) this is because new facts have not been discovered yet

79. It is clear from the passage that theories ----.

- A) usually provide guidelines for new discoveries
- B) always arouse a great deal of controversy among scientists
- C) sometimes exist separately from observed facts
- D) can be maintained unless they are validated by new facts
- E) are specific formulations that are taken for granted by many scientists

80. According to the passage, the validity of a theory ----.

- A) can seldom be rejected once all the theoreticians share a common view
- B) is always hard to maintain, since scientists usually come up with contrary views
- C) can only be established after a series of arguments put forward by various theoreticians
- D) is determined through the test of its comparison with observed facts
- E) always makes scientists proud of their work for the progress of science

TEST BİTTİ.

CEVAPLARINIZI KONTROL EDİNİZ.