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1. Fragile ecosystems like the Arctic could face many more years of contamination from PCBs (polychlorinated biphenyls), despite international treaties banning their use. ----. An estimated 1.3 million tonnes of PCBs were made between the 1930s and 1990s around the world for use in the manufacture of pesticides, lubricants, and plastics. But an investigation to determine the fate of these PCBs has failed to locate most of them.
- A) On the other hand, PCBs may be carried by wind to cold countries where they condense out in the cold air
- B) Indeed, soils in temperate lands have captured most of the PCBs so far released into the environment
- C) On the contrary, PCBs could pose a threat to polar bears for years to come
- D) That is the conclusion of a study into the fate of PCBs manufactured worldwide during much of the 20th century
- E) As a result, urban air contains more PCBs than rural air
2. The Kavli Foundation's approach differs from the increasingly utilitarian focus of most funded research. ----. Kavli opposes this practice for he believes you have to be willing to fund science without knowledge of the benefits.
- A) To obtain funding from any source, scientists must usually frame their ideas in the context of studies already completed and short-term impact
- B) Knowledge about materials and processes in the universe could open up benefits that we can't even imagine
- C) In fact, the foundation pays for nondirected research in its three main areas of interest: astrophysics, nanoscience and neuroscience
- D) It is unrealistic of such agencies to expect these programmes to deliver useful tools and applications rapidly
- E) The foundation has chosen disciplines that are already acknowledged as "growth" areas in science
3. Traditionally, the study of planet formation has proved frustrating, as astronomers have never been sure whether their theories apply to other planetary systems. ----. Now, however, the observations of debris discs around stars of different masses and ages are helping to place our solar system in context.
- A) Some discs look like gigantic versions of the rings of Saturn
- B) Most of the discs, however, could not be seen directly
- C) What the recent images show is wonderfully unexpected
- D) This is because the solar system is the only known example of a planetary system
- E) The dust particles probably result from collisions among asteroids
4. Isaac Newton presented the earliest scientific definition of mass in 1687 in his landmark work *Principium*: "The quantity of matter is the measure of the same arising from its density and bulk conjointly." That very basic definition was good enough for Newton and other scientists for more than 200 years. ----. In recent years, however, the why of mass has become a research topic in physics.
- A) The laws of gravity predict that gravity acts on mass and energy
- B) Most people think they know what mass is, but actually they understand only a very small part of what it entails
- C) Fundamental particles have an intrinsic mass known as their rest mass
- D) Energy and mass are related, as described by Einstein's famous equation, $E=mc^2$
- E) They understood that science should proceed first by describing how things work and later by understanding why
5. Can coal ever become a friend of the environment? Coal-fired power stations supply half the electricity used in many industrial countries. ----. This, of course, is the most worrisome of the so-called "greenhouse gases."
- A) New ones will have to comply with the Clean Air Act
- B) They are, however, responsible for 80% of the power industry's emissions of carbon dioxide
- C) Energy engineers are already talking about "clean coal" technology
- D) Clean coal means different things to different people
- E) Coal treatment and refining processes are rightly getting a lot of attention as well
6. There is something vital, even disturbing, about the buildings he has designed. His serene spaces are charged with emotion. ----. And for all its subtlety and silence, his architecture is dynamic in unaccountable ways – hard as granite, fluid as water and airy as sunlight.
- A) Here there is a shift to a grander and more transparent space
- B) All detractors can say is that he is too 20th century
- C) They blanket your mood the way a great abstract painting does
- D) Above the main gallery, the colours are brighter
- E) You employ stone, wood and concrete, and with these materials you build houses and palaces

7. **New and exciting links are fast being developed between the cities of Europe. In France, highspeed trains are providing the links. ----. These breathe life into regional towns which have now, for the first time, become accessible in terms of time and money to millions of other Europeans.**

- A) The river-bank highways south of the river Seine have been converted into a giant beach
- B) As in the Renaissance-era urban boom, one of the driving forces behind this flowering is art
- C) The new energy is not confined to Europe's capitals
- D) More far-reaching is the extraordinary network of low-cost airlines that have suddenly come into being
- E) These growing links will accelerate the disappearance of national boundaries

8. **"If you want one year of prosperity, grow grain. If you want ten years of prosperity, grow trees. If you want 100 years of prosperity, grow people." ----. It sums up how the entry of China's massive labour force into the global economy is bringing prosperity to the nation.**

- A) China certainly has a huge, cheap workforce
- B) Indeed, China has effectively doubled the global labour force
- C) Actually, China's growth rate is steadily increasing
- D) China is having a dramatic effect on the world economy
- E) This is an old Chinese proverb

9. **Over the past decade almost everyone tuned into American popular culture has heard the term *emotional intelligence*. ----. It has been the subject of several books, including a best-seller, and of seminars for schools and organizations.**

- A) Since this is a new concept, it has attracted much attention
- B) What is your EQ?
- C) Some of the controversy arises from the fact that popular and scientific definitions of emotional intelligence differ sharply
- D) Despite these difficulties research on emotional intelligence has continued
- E) As early as the 1930s, psychometricians recognized the possibility that people might have a *social intelligence*

10. **There are seven euro banknote denominations, which can be recognized easily by their look and feel. ----. On the other, they feature bridges, signifying co-operation between the nations of Europe and the rest of the world.**

- A) It is generally agreed that the euro has proved beneficial to businesses
- B) The eight euro coins have a common side and a national side
- C) Indeed, on January 1st 2002, twelve national currencies made way for just one
- D) On one side, the bank notes show windows and gateways, symbolizing a spirit of openness
- E) Euro banknotes and coins have had a profound impact outside the participating countries

11. **Opioid analgesics are very effective in controlling pain but have many side effects. ----. In addition, before a long-term use of opioid analgesics can be stopped, the dose must be gradually reduced to minimize the development of withdrawal symptoms.**

- A) Moreover, people with severe pain shouldn't avoid opioids
- B) With time a person using them may need higher doses
- C) AIDS can cause pain as severe and unrelenting as that of cancer
- D) The sustained-release form provides relief for 8 to 12 hours
- E) Several types of analgesics can help alleviate pain

12. **An organism must divide its energy between maintenance, repair and reproduction. ----. As a result, organisms face a tough problem: What is the best allocation of finite metabolic energy to maximize reproduction and repair?**

- A) Actually, some organisms do have unlimited energy
- B) No creatures are capable of living indefinitely
- C) The reproductive life of an organism may be even shorter
- D) As an organism ages, the problems become less acute
- E) Even a well-fed organism has to cope with energy limitations

13. **Breast tumours are usually composed of more than one type of cancer. ----. Although scientists know about this phenomenon, it has been difficult to quantify because pathologists use differing diagnostic criteria.**

- A) The latter is much easier to diagnose
- B) In some centres a single pathologist reviews all patient samples
- C) It is hoped that this will enhance patient care
- D) This is a problem when the cancers do not all respond to the same treatment
- E) As a result, the stage of the cancer also needs to be considered

14. A patient with Korsakoff's syndrome reports that he spent the weekend at the beach, when in fact he was in the hospital. ----. However, he neither notices his amnesia nor questions his own story; concerning his own past he doesn't know that he doesn't know.

- A) His memory is impaired but he has replaced his lost history with a story
- B) Such sincere claims cannot be argued away
- C) There is no point in trying to contradict such an assertion
- D) Similarly, a patient with Anton's syndrome will deny his own blindness
- E) Actually, the syndrome is a very rare one

15. Although social and medical interventions have helped people live longer, none of the techniques have affected the aging process. ----. But, there is a change: there are far more 65-year-olds today than there used to be because the past century's efforts reduced early mortality.

- A) Fewer young people now die of infectious diseases as sanitary conditions have improved greatly
- B) This is because people are living longer
- C) A healthy 65-year-old in 1900 would be physically indistinguishable from his or her counterpart in 2000
- D) Improved working conditions have also contributed, to a noticeable extent, to an increased life expectancy
- E) Attention to diet also plays an important role

16. Mollusks can be found in virtually every habitat on Earth and range in size from microscopic to more than 10 m long. ----. But others, the octopus for instance, are considered to be delicacies.

- A) They are indeed an extremely fascinating group of creatures
- B) Not all of them, however, are encased in a shell
- C) All the mollusks are invertebrate animals
- D) Some, like the snails in our gardens, are regarded as pests
- E) The octopus even has problem-solving abilities

17. Archaeologists have a duty, both to colleagues and to the general public, to explain what they are doing and why. ----. Further, their work can also be enjoyed by the wider public which, after all, has usually paid the bill for the work, however indirectly.

- A) Up to 60 per cent of modern excavations apparently remain unpublished
- B) Archaeologists often prefer to dig new sites rather than devote time to laborious postexcavation analysis
- C) Many projects depend upon the willing hands of amateur enthusiasts
- D) Unfortunately, some archaeologists hoard their finds and prevent colleagues from gaining access to them
- E) Basically, this means publishing the discoveries so that the results are available to other scholars

18. Well into the 1860s the American West remained divided from the East by the harsh nature of the country's interior. ----. Their aim was to build a railroad across the formidable mountainous lands of the Sierra Nevada. They were ridiculed on all sides, but the ambitious enterprise eventually succeeded.

- A) Their high-flying goal comes with similarly steep challenges
- B) Top engineers had agreed that the Sierra Nevada could not be crossed by road or rail
- C) Naturally, politicians were not in favour of uniting East and West
- D) Then four merchants began raising money to fund a seemingly impossible project
- E) The high peaks of the Sierra Nevada were acknowledged as being impassable

19. In the annals of computing, nothing has caused as much disappointment as putting ideas on paper. ----. However, with the coming of the inkjet printer it was soon possible to print really highquality images.

- A) For decades, printing computer files was a thankless task for users seeking to reproduce precisely what they saw on their screens
- B) To start with, thermal inkjets were no match for the costlier laser printers that had just been introduced
- C) For all its originality the idea behind the inkjet is far from new
- D) The first inkjet printers were slow, messy machines, but they gradually got better and better
- E) Designers of printers grew more ambitious and they started to want colour, speed and low costs

20. Most Western industrialized nations have an individualistic orientation, which values independence and self-assertiveness. ----. They stress the interdependence of people within the community.

- A) There is no internal evidence to suggest this
- B) Individuals in collectivist Asian cultures are even less likely to commit such errors
- C) In contrast, many non-Western cultures have a more collectivist orientation
- D) This is why Americans tend to use psychological traits to describe themselves
- E) Actually, situational factors also play quite an important role

21. How common are other civilizations in the universe? This question has fascinated humanity for centuries, but so far no definitive answer has been found. ----. Chief among these is the confirmation, after a long wait and several false starts, that planets exist outside our solar system.

- A) Most surprising of all is the speed with which life was established on this planet
- B) A number of recent developments have brought the question once again to the fore
- C) So far, astronomers have found no Earth-like planets, but we can be fairly confident that they will do so
- D) In spite of all this activity, researchers have made no positive detections of extraterrestrial signals
- E) The lack of success to date cannot be used to infer that Earth is the only planet with life

22. Engineers are problem solvers. ----. A child playing with building blocks who learns how to construct a taller structure is doing engineering. A secretary who stabilizes a wobbly desk by inserting a piece of cardboard under the short leg has engineered a solution to the problem.

- A) Certainly, engineers benefit from scientific theory
- B) Early in human history, there were no formal schools to teach engineering
- C) This approach resulted in some remarkable accomplishments
- D) In a sense, all humans are engineers
- E) Sometimes a solution is required before the theory can catch up to the practice

23. Gecko lizards can run up a wall or across a ceiling with ease because of their remarkable toes. But gecko toes aren't sticky in the usual way, like duct tape or Post-it notes. ----.

- A) In spite of this, the ability of geckos to stick to surfaces has attracted scientific scrutiny since the time of Aristotle
- B) Instead, gecko toes have a combination of structures that act together as a smarter adhesive
- C) Hence, it is not surprising that scientists are trying to create artificial, geckolike adhesives
- D) The theory that gecko toe pads act as suction cups has since been disproven
- E) A gecko can stop itself by re-attaching its toes to passing leaves or branches

24. ----. The dimension of length may be described by units of metres, feet, inches, and so forth. Thus, dimension is an abstract idea, whereas unit is more specific.

- A) The metre is currently defined by the distance light traverses in a given length of time
- B) Any measuring system must establish base units from which all other units are derived
- C) For units of measure to be useful, they must be standardized so that business transactions are unambiguous
- D) The metre was first defined in 1793 by dividing the "quadrant of meridian" into 10 million parts
- E) The distinction between dimension and unit is best understood by example

25. If you have ever burned your finger on a metal pot while waiting for the water in it to boil, you know that water heats up much more slowly than metal. In fact, because of hydrogen bonding, water has a better ability to resist temperature change than most other substances. ----.

- A) Because of this property, Earth's giant water supply moderates temperatures, keeping them within limits that permit life
- B) Temperature and heat are related, but different
- C) Another way water moderates temperatures is by evaporative cooling
- D) At 66% of your body weight, water helps moderate your internal temperature
- E) Water must absorb an unusually large amount of heat in order to vaporize because its hydrogen bonds tend to hold the molecules in place

26. Replication is not the only way to improve accuracy in scientific experimentation. ----. Blocking is a method of experimental design that reduces the effects of chance errors; modelling, on the other hand, is much less familiar to practicing scientists.

- A) Accordingly, most scientists try to develop new and more reliable methods
- B) Scientific data always contain a mixture of *signal* and *noise*; the scientist's job is to find the signal
- C) Two other strategies, called *blocking* and *modelling*, can provide at least one replication's worth of accuracy at almost no cost
- D) Replication is one of the finest ideas in the history of science, but it faces a severe law of diminishing returns
- E) Scientists prefer an average of two replicates to a single unreplicated observation because the former is likely to be more accurate

27. At any point in time, some regions of a country may experience difficulties while others prosper. For example, high oil prices will simultaneously benefit oil producers in Texas, but hurt businesses and consumers in northern states like Vermont that rely heavily on natural gas for heating. ----.

- A) Likewise, recessions can affect different parts of the country in different ways
- B) When unemployment is low, firms compete for workers and wages rise sharply
- C) Low employment and high employment have somewhat different effects on wages
- D) As a consequence, the greater the differences in unemployment across regions, the higher the natural rate of unemployment will be in the country as a whole
- E) What this means is that even if the total unemployment rate in the country is fairly normal, inflation can still occur

28. It is straightforward, in principle, to determine who is employed: ----. What is more difficult is to distinguish between those who are unemployed and those who are not in the labour force.

- A) These two groups have very different characteristics
- B) The unemployed are those individuals who do not currently have a job, but who are actively looking for work
- C) The unemployed and employed comprise the labour force
- D) Just count the people who are working
- E) That person is classified as not being in the labour force

29. A few years ago the price of a set of Encyclopaedia Britannica was \$1,600. ----. Why did the price drop to such a great extent?

- A) An encyclopaedia is an information good, and its production involves collecting information and packaging it for use by consumers
- B) Now you can get a CD version of the encyclopaedia, along with a dictionary, thesaurus and world atlas, for as little as \$80
- C) The cost of compiling the information for the first copy of an encyclopaedia is huge
- D) The move from book-form encyclopaedias to digital ones decreased the cost of production
- E) The cost of reproducing the encyclopaedia in digital format is small

30. Many emergencies begin ambiguously, and it is difficult to understand the difference between, for example, a man who is drunk and one who is ill. ----. What you are likely to see, of course, are other people who, for the same reasons, are also acting as if nothing is wrong.

- A) One common way to deal with such dilemmas is to postpone action, to act as if nothing is wrong, and to look around to see how others are reacting
- B) We have all heard about crowds panicking because each person leads everybody else to overreact
- C) It was also difficult to tell whether a woman was being threatened by a stranger or arguing with her husband
- D) Despite this fact, we cannot tell at first glance whether what we see is smoke from a fire or just steam pouring out of the window
- E) We would have been embarrassed if we had reacted as if the situation were an emergency when it actually was not

31. Psychologists argue over whether language influences how people think, but it could affect half of what they see. The view from the right eye is processed in the brain's left hemisphere, which also seems to handle language. Researchers have found that native English speakers, who have separate words for *blue* and *green*, are faster at distinguishing between these colours when they appear within their right visual field, in contrast to people whose language uses the same word to indicate either colour. ----.

- A) Scientists planned to continue the research on these same lines using different colours
- B) Most of the world's languages use a single word to mean both *blue* and *green*
- C) Investigators tested how well the right and left fields of view distinguish between the colours known in English as *blue* and *green*
- D) This leads scientists to question the reason why, in some languages, there is no differentiation between the two colours
- E) This suggests that for English speakers, language influences the visual discrimination between the colours *blue* and *green*

32. Health food stores and popular magazine articles advertise a variety of protein supplements, and people take these supplements for many different reasons. ----. Dieters take them to maintain their bodies' protein while losing weight. Women take them to strengthen their fingernails.

- A) The "liquid protein" diet, advocated some years ago for weight loss, caused deaths in many users
- B) Protein and amino acid supplements don't work these miracles
- C) Athletes do not need protein supplements because muscle work builds muscle
- D) Protein supplements are expensive and less completely digested than protein-rich foods
- E) Athletes take them to build muscle

33. Short-term memory actually stores material that is needed for short time periods, and it serves as a work space for mental computation. ----. That is, information may reside in short-term memory while it is being encoded or transferred into longterm memory.

- A) Another possible function is that short-term memory may be a way-station to long-term memory
- B) Some of the best support for these ideas comes from experiments on free recall
- C) People have other, more effective ways of encoding information in long-term memory
- D) At the time of recall the last few words presented are still likely to be in short-term memory
- E) However, the special memory for language seems limited to relatively simple sentences

34. The chronic overarousal caused by chronic stressors may contribute to coronary heart disease (CHD). CHD occurs when the blood vessels that supply the heart muscles are narrowed or closed, blocking the flow of oxygen and nutrients to the heart. ----. When oxygen to the heart is completely blocked, it can cause a myocardial infarction.

- A) CHD is a leading cause of death and chronic illness in the US
- B) This can lead to pain, called angina pectoris, that radiates across the chest and arm
- C) People in high-stress jobs are at increased risk for CHD
- D) High family demands, in addition to a stressful job, can adversely affect a woman's cardiovascular health
- E) The physiological response that the body experiences in the face of a stressor may have a direct, negative effect on physical health

35. Most researchers believe sleep has some sort of critical maintenance or restorative effect on neural tissue. ----. It has been found that in some birds, therefore, only half the brain rests at once. The other half stays alert, and the eye it controls stays open against potential risk.

- A) No one is sure why animals sleep
- B) Humans are frequently subjected to situations where they need to decide when and how much to sleep
- C) But this unconscious state has a cost: it makes animals vulnerable to predators
- D) The first two or three hours of deep sleep seem to be the most vital for humans
- E) The list includes pigeons, ducks, domestic chickens and a few other birds

36. Broken spirits, not bones, may be the worst result of falling down. Many older people fall, but for some, the experience makes them so afraid of toppling again that their mind impairs their ability to walk without trembling or losing balance. ----.

- A) For example, physicians should encourage patients who have fallen to walk again
- B) Physicians are encouraged to ask patients about recent falls
- C) Similarly, physicians should not assume that every older person who falls has a neurological problem
- D) Thus, they quickly make themselves dependent on canes or wheelchairs
- E) This woman was misdiagnosed and was prescribed medication for Parkinson's disease

37. Many professions, such as law, rely almost exclusively on the written and oral word. Although engineers also must write and speak well, this alone is insufficient to convey complex engineering information. For this, graphical or visual communication is required. ---- In addition, it can provide readers with insight they can obtain through no other means.

- A) On the contrary, tables are useful for presenting technical information.
- B) As a matter of fact, graphs are prepared from tabulated data.
- C) A well-prepared graph can accurately communicate a great deal of information in just a few seconds.
- D) However, a wide variety of graphs are available to help visualize data.
- E) Nevertheless, graphs should have a descriptive title.

38. Compared to its Balkan neighbours, Greece is a wealthy country, but it remains one of the poorer members of the European Union. ---- Nevertheless, with a nominally capitalist orientation, it has overcome its resemblance to pre-1989 Eastern Europe. Loss-making state enterprises have been sold off, and inflation and interest rates have fallen. However, unemployment remains high.

- A) It is still a developing economy, with the agriculture and service sectors accounting for two-thirds of its GNP.
- B) Still, the Greek islands attract thousands of tourists, many of whom come simply to enjoy the sun and sand and the relaxed pace of life.
- C) Accordingly, it now seems poised to become a significant regional power.
- D) Furthermore, it has one of the lowest birth rates in Europe.
- E) Yet family life and social life are usually one and the same, and tend to revolve around eating out.

39. Headaches are among the most common medical problems. Some people have headaches often, while others hardly ever have them. ---- However, a change in the pattern or nature of headaches could signal a serious problem and calls for prompt medical attention.

- A) In addition to drugs, which are enormously beneficial in treating diseases, many other treatments can help relieve pain.
- B) In general, though headaches may be painful and distressing, they rarely reflect a serious medical condition.
- C) Pain is an unpleasant sensation signalling that the body is damaged or threatened with an injury.
- D) On the contrary, high blood pressure may produce a throbbing sensation in the head.
- E) Actually, pain begins in and around the eyes and begins to affect the whole head.

40. Elizabeth Barrett Browning, who was to become Victorian England's most famous woman poet in the nineteenth century, received an unusual education for a woman of her time. Availing herself of her brother's tutor, she studied Latin and Greek. ---- But as her intellectual and literary powers matured, her personal life became increasingly undermined by ill health. Although, by the age of thirty-nine, she was a prominent woman of letters, she continued to live in semiseclusion as an invalid in her father's house, where she occasionally received visitors.

- A) In her later poems, in which she took up the cause of Italian nationalism, she was mostly concerned with the political issues of her time.
- B) Once in Italy, she regained much health and strength, bearing and raising a son, to whom she was ardently devoted.
- C) Hence, in her early work, she tended to use the visionary modes of Romantic narrative poetry.
- D) Moreover, she read voraciously in history, philosophy and literature and began to write poetry from an early age.
- E) However, her work fell into disrepute with the modernist reaction against the didacticism and rhetorical excess of Victorian poetry.

41. The human body changes in many noticeable ways with age. Perhaps the first sign of aging occurs when the eye cannot focus easily on close objects. Often by age 40 or so, many people find it difficult to read without using glasses. ---- People tend to lose some ability to hear the highest pitched tones. Therefore, older people may find that violin music no longer sounds as exciting as it did when they were young.

- A) Hearing loss may be caused by a mechanical problem in the ear canal or middle ear that blocks the conduction of sound.
- B) Some hearing tests can detect disorders in the auditory processing areas of the brain.
- C) Neural hearing loss may be caused by brain tumours that also damage nearby nerves and the brain stem.
- D) People who can't hear well enough may need hearing aids that keep the volume of sound at a suitable level.
- E) Hearing also changes with age.

42. At the beginning of the 1990s, it seemed to all appearances that the US comprehensively dominated global affairs. ---- Thus, it was described as “the lonely superpower”. However, that said, the 1990s proved to be a decade of uncertainty and questioning for many Americans. In broad terms, the challenges of the post-Cold War era were as demanding for the US as they were for other countries.

- A) In many respects, the ending of the Cold War was expected to usher in a period of profound uncertainty.
- B) The debates about US foreign policy in the post-Cold War period have been shaped by the impact of world events.
- C) One of the most frequently used images of US foreign-policy making has been that of contest and struggle.
- D) Indeed, the US has always found it difficult to reconcile the issue of world order with national perspectives.
- E) It occupied a pre-eminent position in terms of military power, technology and global economic reach.

43. Hippopotamuses can be irritable and aggressive when it comes to defending their territory and their young. ----. They have trampled or gored people who came too near, dragged them into lakes, tipped over their boats, and bitten off their heads.

- A) Hippos are led by dominant males, which can weigh 6,000 pounds or more
- B) Agricultural irrigation systems and other developments have depleted the hippos' wetland, river and lake habitats
- C) Although hippos occasionally fight with crocodiles, a growing number of their attacks are on humans
- D) A decade ago there were about 160,000 hippos in Africa, but the population has dwindled to between 125,000 and 148,000 today
- E) In countries beset by civil unrest, where people are hungry and desperate, hippos are hunted for their meat

44. The historian G. Sarton said that the development of mathematics is unknown to the general public. ----. Cayley's seminal investigations of matrix algebra were crucial for the development of linear algebra. The terms matrix, determinant and Jacobian, familiar to most science students, were invented by Sylvester.

- A) Cayley was a Trinity College fellow at Cambridge for a few years until he married
- B) It isn't clear when they met, but by 1847 they were corresponding to share thoughts about mathematics
- C) Each had triumphed on the University of Cambridge's fearsome Tripos examinations
- D) Certainly very few have ever heard of A. Cayley or J.J. Sylvester, two of the most prolific mathematicians of the Victorian era
- E) J.J. Sylvester was not only a mathematician but also an enthusiastic poet who called himself the “mathematical Adam”

45. ----? The answer to that question can range from days to months to decades on the one extreme and from centuries to millenia, and possibly even longer depending on such diverse and interrelated factors as design, construction and maintenance.

- A) How old is the world-famous Brooklyn Bridge
- B) Can a bridge possibly be designed to last a century
- C) How long did London's Millennium Bridge stay open
- D) The Tacoma Narrows Bridge lasted only four months before it fell to the wind, didn't it
- E) How long can a bridge last

46. Detecting a virus on any nanosize particle usually means fixing it to a substrate or attaching a fluorescent probe to it, neither of which is practical for detecting particles in real time. ----. The system splits a laser beam in two, sending one half to a sample. When the light hits a small particle, it is reflected back and recombined with the reserved half of the laser beam, producing a detectable interference pattern only when a moving particle is present.

- A) The method works because it relies on the light's amplitude rather than its intensity
- B) The investigators have so far detected single particles as small as seven nanometres across
- C) Now physicists have assembled a simple system for doing just that
- D) A substrate is a substance that reacts when it comes into contact with a particular enzyme
- E) Amplitude is the square root of intensity

47. Why do young chameleons prefer to stay close to the ground? In a recent study published in Behavioral Ecology and Sociobiology, biologists argue that cannibalism in the common chameleon has resulted in a habitat shift. ----. Juvenile chameleons tend to stay in low grasses, whereas adults make better use of their anatomical gifts by living primarily in trees.

- A) That is, as individuals develop, their choice of habitat changes
- B) With its prehensile tail and strong, opposing toes, the common chameleon is a natural climber
- C) Young chameleons showed little change in behaviour when with other juveniles
- D) The biologists placed a one-way mirror between an adult and a juvenile, so that the adult could see the juvenile but not the other way round
- E) Whether an attack was likely when there was close contact between the generations was also tested

48. Isaac Newton and Francis Bacon were considered by their contemporaries to be ornaments of the English humanities, and many whom we now call scientists were called "natural philosophers" in their day. ----. According to the Oxford English Dictionary, the earliest use of the term was in 1840.

- A) Inspired by the example of the University of Berlin, other institutions of learning were beginning to detach themselves from theology and classics and devote themselves to research
- B) Sigmund Freud considered himself a "biologist of the mind"
- C) Charles Darwin was a man driven to explain his ideas in rational terms
- D) The term "scientist" was only invented in the 19th century as a kind of counterpart to the term "artist"
- E) Human life was illuminated by being compared to a chariot pulled by two horses of different temperaments, a flowing stream, or the task of pushing a stone up a hill

49. The low-tax, high-income countries are mostly English-speaking ones that share a direct, historical lineage with 19th century Britain. ----. The high-tax, high-income states are the Nordic social democracies, notably Denmark, Finland, Sweden and Norway, which have been governed by social democratic parties for much or all of the post-World War II era. They combine a healthy respect for market forces with a strong commitment to anti-poverty programmes.

- A) Unemployment rates are roughly the same in both groups
- B) These countries include Australia, Canada, Ireland, New Zealand, the UK and the US
- C) All of them, but especially Sweden and Finland, have taken to the sweeping revolution in information and communications technology
- D) One of the great challenges of sustainable development is to combine society's desire for economic prosperity and social security
- E) The US spends less than most other rich countries on social services for the poor and disabled

50. As you may have seen in a museum, men and women have grown taller and heavier in the last 300 years. ----. Body weights are also substantially higher today. The average weight of English males in their thirties was about 60 kg in 1790 – 20% below today's average.

- A) Not only did lower food supplies lead to smaller physical stature, but they also led to a higher incidence of chronic disease
- B) A typical Frenchman in his thirties at that time weighed only 50 kg
- C) As an example, an average male adult today is at approximately 1.75 m tall, which is nearly 12 cm taller than the typical Englishman in the late eighteenth century
- D) Robert Fogel from the University of Chicago estimated that the chronic malnutrition caused by limited food supplies at those times limited labour productivity
- E) Economic growth increased food supplies, enabling workers to become more productive and increase gross domestic product even more

51. A number of globalization issues involving children require our thoughtful consideration and action. ----. These children and their families represent a challenge to educators because of cultural and language barriers.

- A) A great challenge in the twenty-first century is how to enrich or give positive content to the process of globalization
- B) The effects of globalization are seen over a wide spectrum of our lives, including children's play and people's beliefs and attitudes about it
- C) One can judge the quality of a nation by the willingness of its citizens to care about other people's children
- D) An educational consequence of globalization facing many teachers of young children in the US and elsewhere is the growing number of recent immigrant children in classrooms
- E) Conditions are being created so that more and more people will come to have both a global identity and a local identity (one's own cultural reference group) in the twenty-first century

52. After earning his degree, John M. Keynes became a civil servant, taking a job with the India Office in Whitehall, London. ----. With the onset of World War I, Keynes returned to government employment, this time in the Treasury.

- A) Between the wars, Keynes wrote his most famous work: The General Theory of Employment, Interest and Money
- B) After World War I, he attended the Versailles Peace Conference
- C) His book, The Economic Consequences of the Peace, condemned the Versailles Peace Treaty and its negotiators
- D) His wife, a Russian ballerina, was very active in promoting the arts
- E) After a while, he returned to Cambridge, where he taught economics at the University

53. Alcohol is rich in energy (7 kcalories per gram), but, as in pure sugar or fat, the kcalories are empty of nutrients. ----. This means that the more alcohol people drink, the less likely it is that they will eat enough food to obtain adequate nutrients.

- A) Thus, the more kcalories provided by alcohol, the less nutritious food is normally eaten
- B) Alcohol in heavy doses is not efficiently metabolized, generating more heat than fat
- C) Most dramatic, however, is alcohol's effect on the B vitamin folate
- D) The combination of poor folate status and alcohol consumption has, as a result, been implicated in promoting colorectal cancer
- E) Generally, moderate drinkers consume alcohol as added energy – on top of their normal food intake

54. The pharmaceutical industry is particularly interested in new substances that could mask unpleasant flavours. ----. And chronically ill people, such as AIDS patients, who have to force down many unpleasant tablets daily, would greatly appreciate more agreeable formulations.

- A) Such a quality might prove undesirable for sweets or soda
- B) The idea of a bitter-blocker has still to be tested
- C) Flavour-optimized drugs would be especially valuable for treating children, who often refuse to swallow nasty-tasting syrups
- D) Nutritionists want to know how much these choices could affect the health of individuals
- E) Widespread use could possibly undermine a natural protective function

55. The main diagnostic signs of autism are social isolation, lack of eye contact, poor language capacity and absence of empathy. ----. Many people with autism, for instance, have trouble understanding metaphors; they also have difficulty mimicking other people's actions.

- A) It would be premature to conclude that damage to the cerebellum is the sole cause of the disorder
- B) Other, less well-known symptoms, however, are also commonly evident
- C) Some researchers posit that the main abnormality in autism is a deficit in the ability to construct "a theory of other minds"
- D) Certain brain cells are often referred to as motor-command neurons
- E) Still, children with autism do have characteristic abnormalities in the cerebellum

56. A pregnant woman should participate in "low-impact" activities and avoid sports in which she might fall or be hit by other people or objects. ----. Swimming is also ideal because it allows the body to remain cool and move freely with the water's support.

- A) It also maintains the habits that help a woman lose excess weight and get back into shape after the birth
- B) In general, the more weight a woman gains beyond what she needs for pregnancy, the more she will retain
- C) Women who begin their pregnancy at a healthy weight need to gain about 30 pounds, which covers the growth and development of the placenta, uterus, blood, breasts and infant
- D) Several of these guidelines have been aimed at preventing dehydration
- E) For example, a daily walk is always beneficial

57. The liver has primary responsibility for detoxifying alcohol. ----. Cancer is more likely to occur in cirrhotic livers than in healthy ones, but alcohol abusers are likely to die of a variety of causes before liver cancer develops.

- A) An excessive intake of alcohol often leads to cirrhosis of the liver, a degenerative disease that limits the organ's effectiveness
- B) This evidence indicates that high levels of alcohol consumption are related to various kinds of cancer
- C) For cancers of all sites, alcohol is not as strong a risk factor as either smoking or an imprudent diet
- D) Recent research has found a synergistic effect between alcohol and tobacco
- E) Pancreatic cancer has a special affinity to alcohol consumption

58. In recent years, the amount of aid for developing countries has increased, and the price of many drugs has fallen. So why does one third of the world's population still lack access to proper healthcare? ----. Many charge high tariffs on life-saving medicines and equipment, sometimes even taxing products that are donated for free.

- A) If these tariffs were lowered, it would dramatically increase access to pharmaceuticals
- B) Thus, even in places where tariffs are waived, other barriers remain
- C) To a large extent, the fault lies with the poor countries themselves
- D) Naturally, it is the right of any nation to raise income as it sees fit
- E) These regulatory constraints are imposed on a wide variety of medical equipment as well as drugs

59. No description of embarrassment would be complete without considering the blush. For many of us, it is the hallmark display of embarrassment. ----. Although the physiology of the blush is not fully understood, we are getting nearer to a better understanding of it.

- A) Their results showed that blushing begins with a sharp increase of blood flow, which is then followed by a slower rise in facial temperature
- B) Although smiling occurs during embarrassment, it has a different appearance from that of amusement
- C) On the other hand, in embarrassment, the lips turn up but without the accompanying action of the crinkling of the eyes
- D) Actually, however, blushing does not necessarily accompany embarrassment, and facial reddening can occur during other physical and emotional states as well
- E) Generally speaking, heart rate and blood pressure tend to rise and fall in many emotional states such as anger, fear and happiness

60. Ice climbing and rock climbing share some important features. Both use ropes, harnesses, and other specialized equipment for ascending steep granite or blue ice. ----. A rock climber follows the natural cracks or weaknesses in the rock whereas, with ice tools in each hand, an ice climber has more freedom to blaze a path up and is limited only by the ice conditions and the technology of the tools.

- A) Most ice climbing trips require an arduous trek into the mountains and possibly several nights out in the cold
- B) But, the method of climbing in each case is different
- C) However, climbing itself has always been considered to be very dangerous
- D) There are many tragic stories of climbing accidents
- E) But once you find your footing, ice climbing can become addictive

61. Norwegians, like the Danes and Swedes, are of Teutonic origin. The Norsemen, also known as Vikings, ravaged the coasts of northwest Europe from the 8th to the 11th century and were ruled by local chieftains. ----. After 1442, the country was ruled by Danish kings until 1814, when it was united with Sweden in an uneasy partnership.

- A) Despite severe losses in the World War II, it recovered quickly as its economy expanded
- B) Norway became the second largest net oil exporter after Saudi Arabia in 1995
- C) When the World War I broke out, Norway joined with Sweden and Denmark in a decision to cooperate in the joint interest of the three countries
- D) Olaf II Haraldsson became the first effective king of all Norway in 1015 and began converting the Norwegians to Christianity
- E) In the late 20th century, the Labor Party and the Conservative Party seesawed for control, each sometimes having to lead minority governments

62. ----. Traditionally, one of the most important tools used to study cell structures has been the microscope. In fact, cells were not described until 1665, when Robert Hooke examined the cell walls of dead cork cells using a microscope he had made. Hooke used the term "cell" because the tissue reminded him of the small rooms that monks lived in during that period.

- A) A light microscope can be used to view stained or living cells, but at relatively low resolution
- B) Early biologists thought that the cell consisted of a homogeneous jelly, which they called protoplasm
- C) Lenses in the electron microscopes are actually magnets that bend the beam of electrons
- D) Because cells are so small, scientists have had to be extremely clever in devising methods for studying them
- E) Most of the methods used to prepare and stain cells for observation also kill them in the process

63. ----. What he really seeks, however, are the most meaningful ones, and these vary from one context to another. His words may be grandiose or humble, fanciful or matter of fact, romantic or realistic, archaic or modern, technical or everyday, monosyllabic or polysyllabic.

- A) It is not unusual for a poet also to be a musician
- B) A poet creates new experiences for the reader in which the reader can participate
- C) A frequent misconception of poetic language is that the poet seeks always the most beautiful or noble-sounding words
- D) In the poem "Winter" Shakespeare is attempting to communicate the quality of winter life around a sixteenth century English country house
- E) Language has many levels and varieties, and poets may choose from them all

64. Engineers are hired by clients (and employers) specifically for their specialized expertise. ----. Therefore, engineers have ethical obligations to their clients, because the client often cannot assess the quality of the engineer's technical advice. These obligations are part of engineering ethics, the set of behavioural standards that all engineers are expected to follow.

- A) Civil engineering is generally considered the oldest engineering discipline
- B) Successful teamwork results in accomplishments larger than those that can be produced by individual team members
- C) Generally, the client knows less about the subject than the engineer
- D) Biochemical engineers combine biological processes with traditional chemical engineering to produce foods and pharmaceuticals and to treat wastes
- E) An engineer does not need to have a licence to practise engineering, but those who do may have more career opportunities

65. An athlete's body must be heavier for its height than a nonathlete's body because the athlete's bones and muscles are denser. ----. However, this is not true. Weight standards that may be appropriate for others are inappropriate for athletes. Therefore, measures such as fatfold tests yield more useful information about body composition.

- A) When athletes consult standard weight-for-height tables and see that they are on the heavy side, they may mistakenly believe that they are too fat
- B) The increasing incidence of abnormal eating habits among athletes, especially young women, is causing concern
- C) Athletes are particularly likely to develop eating disorders
- D) They fail to realize that the loss of lean tissue that accompanies energy restriction actually impairs their physical performance
- E) Male athletes, especially wrestlers and gymnasts, are affected by these disorders as well, but research shows that females have a greater tendency

66. Thanks to their status as one of the world's top predators, great whites are among the best known sharks on Earth, yet essentially nothing is known about their mating habits. That could soon change, as researchers have discovered a remote spot in the North Pacific Ocean that may be a mating ground for great whites, according to a recent study. ----. But, as scientists have explained, the theory that the area is a feeding ground for great whites may be incorrect.

- A) It's not an area that a shark would logically go to from California to find something to eat
- B) At first, scientists nicknamed the region, 1,553 miles west of the Baja Peninsula, the "great white café" because they suspected sharks could be going there to feed
- C) The sharks migrate long distances seasonally from the coast of California to Hawaii and to the offshore area
- D) On average, the sharks dive every 10 minutes, 325 metres down, perhaps to sniff for mates, whose scent could be detected at a certain level of depth
- E) Sharks gather at marine mammal habitats in California during autumn and winter months, feeding on the abundant elephant seals and other prey before migrating to the offshore waters

67. The dark side of nanotechnology is the nightmare possibility that "nano-robots" could be programmed to turn everything on Earth into more nano-robots. ----. Some researchers, however, say that while they also have some worries about nanotechnology, they don't want it banned because its benefits outweigh its risks

- A) R. Smalley discovered the three-dimensional nanoscale carbon cages called fullerenes
- B) E. Drexler says he invented the word "nanotechnology"
- C) The inventors of nanotechnology were awarded a Nobel Prize
- D) In 1990, a team of scientists found they could use a scanning tunnelling microscope to drag individual atoms of xenon over the surface of a crystal of nickel
- E) There are other fears, such as nanoscale particles creating unforeseen toxic hazards

68. Seismologists have struggled for years to find a reliable earthquake predictor. Could balls of light in the sky preceding quakes hold the key? The US Federal Emergency Management Agency (FEMA) has begun asking that very question. ----. Thus, they have funded NASA to study earthquake lights using weather satellites and the MODIS research satellite during the past few years.

- A) In 1999, floating balls of light in the sky were broadcast on Turkish television, reportedly filmed the night before the earthquake in İzmit
- B) In 1968, the first photographs of "earthquake lights" were taken by Yutaka Yasui of the Kakioka Magnetic Observatory
- C) The main problem facing FEMA is that earthquake lights still don't have an accepted scientific explanation
- D) Most earthquakes occur at plate boundaries, where one plate slides beneath another hundreds of kilometres below the Earth's surface
- E) Mainstream geologists had dismissed these earlier claims as coincidental

69. Unlike wine, whisky does not change after it has been bottled. ----. The first rule to respect is to keep whisky bottles upright so that the alcohol is not in contact with the cork. It should also be kept away from all sources of heat in order to avoid drying out the cork, which would allow air to get into the bottle.

- A) Keeping a young whisky in a bottle and putting an old whisky in a decanter combines aesthetic pleasure with the joy of tasting
- B) One question which is often asked, and over which whisky lovers are divided, concerns whether or not to use a decanter
- C) However, it is advisable to take some precautions to assure its longevity
- D) The Classic Malts Collection owes its considerable success since its launch in 1988 as much to the quality of the whisky as to the excellent design of the six bottles that make up the range
- E) Marketing and design have revolutionized the whisky industry, especially the manufacture of containers

70. The scientific study of facial expression has largely focused on the way in which facial expressions communicate emotions. ----. In fact, subsequent research generally identified six basic emotions (happiness, surprise, sadness, fear, disgust and anger) and their related facial expressions, from which more complex or blended emotions are derived.

- A) In this respect, Darwin suggested that there are only a small number of universal emotions and that these are associated with universal facial expressions
- B) Similarly, tears are an acceptable display of sadness at a funeral but not on hearing disappointing news in a business setting
- C) These rules exist because of the important communicative function of facial expressions
- D) People from a variety of Western, Asian and tribal cultures were remarkably accurate in identifying the six emotions
- E) For instance, the expression of emotion is encouraged for women in Mediterranean cultures but is discouraged for men in northern European and Asian cultures

71. Photo interpretation in archaeology is the process by which features photographed from the air, such as soil-marks, are analyzed in order to deduce the types of archaeological structures causing them. ----. Such plans may guide excavation to key points in a structure, place field-collected data in context, or themselves be used as the starting point for new research.

- A) Archaeologists may use aircraft to search the ground for traces of former sites in the landscape
- B) Given that the visibility of features varies from year to year, photos taken over several years need to be studied to compile an accurate plan
- C) The aerial photograph also highlights an interesting earlier feature: a shallow Neolithic ditch running across the middle of the fort
- D) Soil marks may reveal the presence of varied ditches, banks or foundations
- E) Those who take and use aerial photographs must understand the means by which the evidence is made visible in order to determine the type of feature that has been recorded

72. Near-death experiences are relatively stereotyped in format. ----. They often describe sensations like “floating” or “flying”. These experiences can also cause fear or a feeling of detachment, but they are usually described as intensely “real” – not at all like a dream or a hallucination.

- A) People who have had such experiences say that they seemed to be no longer in their own body but outside it, looking down on themselves from two or three metres above
- B) Survivors of these experiences may, weeks later, experience a surge of emotionality, as if emotions of every sort were being stimulated or released
- C) Sometimes, near-death experiences are followed by a sudden onset of musical or artistic interest
- D) Tony Cicoria reported seeing a bluish-white light that surrounded him and having a sense of ecstasy
- E) Similar near-death experiences have often been described by people who have been, or believed themselves to be, in great danger

73. Adults who abuse children were almost always abused themselves, but not all people who were abused during childhood become abusers. ----. However, children who do not form such relationships are at high risk to become abusers themselves.

- A) Biological fathers are much more likely than mothers to abuse their children
- B) These children often grow to adulthood displaying aggressive behaviours, lacking the ability to adequately express emotions, and having inadequate cognitive and problem-solving skills
- C) Older children and adolescents are even more likely to be witnesses and victims of such violence
- D) Many have experiences that compensate for the abuse, forming relationships that allow them to feel valued and safe in some ways and grow up to become good parents
- E) School-age children and adolescents who are abused may exhibit symptoms of psychopathology or behaviour disorders

74. In the United States, more doctors are using hypnosis for procedures in which sedation is inappropriate or patients are allergic to anaesthetics. Yet not even the most enthusiastic proponents of hypnosedation suggest it can replace anaesthesia entirely. ----. Some 60% of patients are hypnotizable to some extent; an additional 15%, highly so. The rest seem to be unresponsive.

- A) Millions of Americans have employed hypnosis to stop smoking cigarettes or cut back on their eating
- B) Meanwhile, studies using advanced scanning technology have shed additional light on how hypnosis works to block pain
- C) Since the early 1990s, hypnosis has increasingly been used in operating rooms as a substitute for or as a complement to anaesthesia
- D) This application, now widely employed in Europe, stems in part from studies showing that hypnosedated patients suffer fewer side effects than fully sedated ones do
- E) For one thing, not everybody can be hypnotized; to oversimplify, one must be open to the process first

75. Before treatment was available, most people who had acute leukemia died within 4 months of diagnosis. Now many people are cured. ----. The disease returns in many, but 50 per cent of children show no signs of the leukemia 5 years after treatment.

- A) These symptoms include weakness and shortness of breath, resulting from too few red blood cells; infection and fever, resulting from too few normal white blood cells; and bleeding, resulting from too few platelets
- B) Common blood tests, such as the complete blood cell count, can provide the first evidence that a person has leukemia
- C) However, a bone-marrow biopsy is almost always performed to confirm the diagnosis and determine the type of leukemia
- D) For more than 90 per cent of people who have acute lymphocytic leukemia (usually children), the first course of chemotherapy brings the disease under control
- E) They are released into the bloodstream and transported to the liver, spleen, lymph nodes, brain, kidneys and reproductive organs, where they continue to grow and divide

76. People adopt health-related behaviours in order to stay healthy and to combat disease. ----. However, all of these models have some limitations, especially in their ability to predict the health-related behaviours of people who lack the financial resources necessary to pursue proper medical attention.

- A) Several theoretical models have been formulated in an effort to explain and predict health behaviours, and most of these theories have some value in predicting and explaining health-related behaviour
- B) Although the meaning of these models may seem obvious, their definitions have been elusive
- C) The limitation of each of these models is their inability to accurately measure a number of social, ethnic and demographic factors that also affect people's health-seeking behaviour
- D) Among these stages is the necessity of overcoming their optimistic bias; that is, their belief that, although certain behaviours are dangerous, the danger pertains to other people and not to them
- E) In the United States and other Western countries, people are not "officially" ill until they are diagnosed by a physician, making physicians the gatekeepers to further health care

77. In the United States, child abuse is by no means a recent phenomenon, but the identification of child battering as a social problem and its definition as a crime did not occur on a national level until the 1960s. ----. Evidence began to accumulate that such beatings were common and a major source of injury for infants and children.

- A) One common result of intentional injuries is that abused children may be vigilant and feel threatened in a variety of situations – the world becomes a dangerous place
- B) Treating infants with skull and long bone fractures led paediatricians and radiologists to recognize that these injuries were caused by beatings
- C) Children who fail to thrive, especially during the first year of life, may never catch up developmentally or socially with their peers
- D) Violence is a more common cause of injury and death in the United States than in other industrialized nations, with violent crimes occurring at a rate of about 8 per 1,000 people
- E) Abused children also tend to be fearful about rejection, abandonment and additional abuse

78. Some obese people who lose weight voluntarily benefit from their weight loss. Research on obese people who lost weight indicates that a 10% loss is sufficient to produce significant decreases in lifetime health risks and personal health-related expenditures. ----.

- A) Dieting is a good choice for some people but not for others
- B) The eating disorders that have received the most attention, both in the popular media and in the scientific literature, are anorexia nervosa and bulimia
- C) Therefore, even modest weight loss can be important for those who are obese
- D) On the contrary, the factors that influence obesity in adolescents are the same as those in adults
- E) In addition, behaviour modification programmes with obese children have greater success in promoting permanent weight loss than similar programmes with adults

79. This year a lot of good things have happened in the US economy. US companies have become more competitive, and exports are now booming. This strong export growth is helping to stabilize the trade gap, and slower US demand will bring down imports. ----. Moreover, long-term interest rates are still low, stock prices are setting records, and the economy continues to grow at a moderate pace.

- A) The biggest danger in the weeks ahead is a US recession, since currency markets began to worry at the end of 2006 that the housing recession could spill over to other areas of the economy
- B) In the meantime, profits from overseas operations and returns on international investments are rising as the gains are translated back into dollars
- C) Some leading economists have forecast that the US dollar's value could plunge by a third over the next few years
- D) The US dollar will be somewhat more vulnerable against the euro, given that the European Central Bank will most likely continue to raise interest rates
- E) The dollar is down 3% from a year ago against the Chinese yuan, and futures markets expect an additional 5% decline later in the year

80. Venezuela's president Hugo Chávez is using his country's oil wealth to create a sphere of influence in Latin America. He has given his open support to Cuba and funded leftist politicians in Bolivia and Ecuador. ----. Chávez's growing influence, however, means that a collapse in Venezuela could take much of the continent down with it.

- A) He maintains that the Venezuelan economy should not mainly depend on oil revenues but that more efforts must be made to upgrade the other sectors of the national economy
- B) He is well aware of the fact that, since 2003, stocks in developing economies have averaged gains of 30% annually
- C) Moreover, by buying bonds from Argentina, he has helped stocks there jump tenfold since 2001, thus greatly contributing to the improvement of the country's economy
- D) He knows that with the Mexican, Asian, and Russian market crashes of the 1990s long forgotten, developing-country stocks in the world keep jumping to all-time highs
- E) He believes that political turmoil elsewhere could be just as devastating for the Venezuelan economy, which is currently doing very well

81. Laying undersea cable systems is a monumental process. After surveying landing sites, studying seabed geology, and assessing risks, engineers plot a route. ----. For months, these ships lower the cables thousands of feet to the seabed. In congested spots, engineers use robots to dig trenches for the cable that protect it from wayward anchors and fishing nets. Then crews pull the cable ends above the water and connect them to land-based stations.

- A) One of the new Pacific systems is part of a massive \$1.5 billion global network connecting 60 countries
- B) Traditional cross-ocean systems are loops made up of two cables, usually many miles apart
- C) Operators building new cable systems are mindful of the threat of earthquakes and do what they can to avoid it
- D) Then gigantic spools of cable and other gear are loaded on cable-laying vessels
- E) While there are ten major undersea cables linking the US directly with Europe, there are only five cables connecting the US with Asia

82. Epilepsy, one of the most common neurological disorders in the world, is caused by abnormal electrical activity in the brain. ----. Most forms of epilepsy have been assumed to stem from brain tissue "scars" acquired through trauma, so that molecular approaches to understanding and treating the disease would be fruitless.

- A) It is true that, in developed countries, a principal focus of epilepsy research has been on the causes of the disease
- B) The symptoms of this disease range in severity from mild sensory disruption to recurring seizures and unconsciousness
- C) In addition, not all cases of epilepsy have been fully studied
- D) Moreover, proteins as large as insulin have been proposed as neurotransmitters
- E) On the contrary, a pairing of proteins in neurons may be relevant to the pathogenesis of human epilepsy

83. The biggest problems affecting the IMF, the World Bank, and other instruments of globalization concern governance. At both the IMF and the World Bank, voting rights are allocated not according to population but according to economic power, and the various countries' representatives are typically finance ministers or members of central banks, not officials with broader outlooks and concerns. ----. Therefore, the voices of those most affected by globalization are barely audible in discussions about what policies these international bodies should follow.

- A) It is within these same small, elite circles that most of the debate about reforming the international economic architecture occurs
- B) IMF policies have always had a lasting impact on the economies of developing countries
- C) Yet well-managed globalization has enormous potential for improving the lives of people in poor countries
- D) Traditionally, the World Bank has been reluctant to lend money unless the IMF certifies that the country in question has a solid macro-economic framework
- E) If we continue with globalization as it has been managed in the past, the future will not be bright

84. Although the European Parliament (EP) can't initiate legislation, it has been granted increased powers under successive European Union (EU) treaties. ----. Germany has recently proposed strengthening the EP's hand in budgetary matters. Moreover, corporations and citizens' groups have been quick to recognize the parliament's increased powers, especially in environmental and consumer protection, and are dispatching more and more lobbyists to it.

- A) In 1997, France successfully petitioned the European Court of Justice to block efforts by the Parliament to meet eleven rather than twelve times annually in Strasbourg
- B) In 1952, Strasbourg was designated the meeting place of the EP's forerunner, known as the Common Assembly of the European Coal and Steel Community
- C) On the other hand, the EP holds at least twelve of its sessions in Strasbourg and the rest in Brussels, which is the headquarters of the EU
- D) Last year, the US mission to the EU was enlarged, and the American monitoring of the EP's activities has since increased noticeably
- E) Thus, it can now approve, amend, or veto eighty per cent of the economic and social regulations generated by the European Commission

85. Carbon nanotubes have been hailed as a semiconducting wonder ingredient that will make materials stronger. ----. Moreover, their ability to act as filters might one day be exploited to build artificial livers.

- A) In the molecules of a polar liquid, some atoms are slightly positively charged while others carry a balancing negative charge
- B) Some experts in nanotube chemistry have published extensively
- C) Accordingly, it is possible to make nanotubes generate electricity
- D) Thus, their importance has been greatly overrated
- E) In addition, they will help miniaturize electronics systems

86. Locomotion can be considered to be a flow of mass from one location to another. ----. They seek and find paths and rhythms that allow them to move their mass the greatest distance per expenditure of useful energy while minimizing thermodynamic imperfections such as friction.

- A) All of these designs allow for the maximum transfer of material with the least amount of resistance
- B) A flow is an equilibrium of areas with high and low resistivities
- C) Animals move on the surface of Earth in the same way as rivers, winds and oceanic currents
- D) A river basin configures and reconfigures itself so that the water is discharged with the least resistance through the mouth of the river
- E) One of the basic goals of any design – whether it's an animal or a machine – is to get maximum output for minimum energy

87. Only a few large meteorites have struck the earth. The largest we know about fell in Arizona and made what is now called Meteor Crater, a hole about a mile across and 600 feet deep. ----. Other big meteorites fell in ancient times, in Texas, in Argentina, in northern Siberia and in Greenland.

- A) When a meteor reaches the earth, it is called a meteorite
- B) This big meteorite may have fallen as much as twenty-five thousand years ago
- C) The amazing thing about these meteor showers is that they come year after year
- D) Most meteors are small, probably a few inches in diameter
- E) The most remarkable meteor shower was seen in Connecticut on the night of November 12, 1833

88. Although a soccer ball can be put together in many ways, there is one design so ubiquitous that it has become iconic. This standard soccer ball is glued together from 32 polygons, 12 of them five-sided and 20 six-sided, arranged in such a way that every pentagon (five-sided) is surrounded by hexagons (six-sided). ----. This colour scheme was introduced for the World Cup in 1970 to enhance the visibility of the ball on television, although the design itself is older.

- A) 12 pentagons and 20 hexagons form a figure known to mathematicians as a "truncated icosahedron"
- B) To a mathematician, the iconic black and white soccer ball is an intriguing puzzle
- C) A number of questions can be tackled about the arrangement of pentagons and hexagons using the language of mathematics
- D) The usual way to colour such a ball is to paint the pentagons black and the hexagons white
- E) Every soccer ball contains at least 12 pentagons, but may well contain more

89. This year researchers from some 60 nations are participating in the International Polar Year, an intensive burst of interdisciplinary research focusing on the polar regions. ----. For instance, water from the melting ice sheet is flowing into the North Atlantic much faster than scientists had previously thought possible.

- A) Greenland, especially, has become a kind of barometer for the rest of the world because of its sensitivity to climate changes
- B) Climatologists have found that the best places to study global warming are the coldest regions on Earth
- C) Thus far, the data the researchers have seen has been alarming
- D) A glacier that accelerates with a warming atmosphere is within the realm of scientific expectation
- E) Arctic climatologist Konrad Steffen has spent 18 consecutive springs on the Greenland ice cap, personally building and installing the weather stations

90. Although difficulties with names are nothing new, the nature of name-giving changed with the introduction of computer technology. ----. In the old days, a letter from overseas addressed to the "U.S." or the "U.S.A." or even the "E.U." would stand a chance of being delivered, but an e-mail for the corresponding geographic domain must have the exact designation "US"; no variation is tolerated.

- A) For example, the ticker symbols that identify securities on the New York Stock Exchange can be no more than three characters long
- B) Broadcast radio stations in the US have call signs of either three or four letters, and the first letter is always either K or W
- C) The names can get so long and intricate that only a computer can identify them
- D) It is not just the names that are scarce; we are even running out of numbers
- E) Place names – and abbreviations for them – offer a good example of how names have changed

91. Capturing your attention and holding it is the prime motive of most television programming, and this enhances its role as a profitable advertising vehicle. ----. So the surest way to get audiences focused on a programme is to provide them with constant stimulation through variety, novelty, action and movement.

- A) It is difficult to escape the influence of television
- B) The advertisements are often more entertaining than the actual programmes
- C) The only things Americans do more than watch television are work and sleep
- D) Programmers live in constant fear of losing the attention of their audiences
- E) By the age of 20 an average person will have been exposed to at least 20,000 hours of television

92. The arts in Italy have enjoyed a long and glorious history, and Italians are very proud of this. ----. Still, efforts are being made throughout the country to put as many art collections on show as possible. The performing arts such as opera and cinema are also underfunded, yet there are spectacular cultural festivals.

- A) A tradition of literary Italian was established back in the 13th and 14th centuries by Dante and Petrarch, who wrote in a cultured Florentine dialect
- B) In the land of Verdi and Rossini, opera is naturally well supported
- C) However, it does cost a lot to look after them
- D) It was the artists and scholars of 15th-century Florence who inspired the Renaissance in Europe
- E) On the other hand, Rome, Florence and Venice are naturally the main tourist destinations

93. In its first case concerned with global warming, the US Supreme Court ruled in April that greenhouse gases such as carbon dioxide are air pollutants which the Environmental Protection Agency (EPA) can regulate. As a consequence, experts agree that greenhouse emissions from automobiles and possibly power plants will face regulation. The debate will now focus on how strict or flexible those rules will be. ----. Moreover, the agency also stated that even if it did have the power to regulate these gases, it would not do so.

- A) If the agency were to refuse, there would be a lawsuit against it
- B) However, the EPA had long claimed to have no authority in regulating these gases
- C) Siding with the EPA were several industry groups and ten states, a number of which rely heavily on coal, electricity or motor vehicle production
- D) The Supreme Court ruling may represent a milestone in the legal battle over climate change
- E) Notably, 12 states had been seeking waivers from the Agency permitting them to pass laws requiring reduced car emissions of greenhouse gases from the 2009 model year onward

94. Whether or not the number of pilots increases in the long run, for the foreseeable future small planes could make a difference mainly if they constitute the operating fleet for a new national system of air taxis. ----. And, in the race to create this fleet, two companies are deeply involved.

- A) They will be looking for jet planes priced at well under a million dollars apiece
- B) The people racing to create new systems of air transportation are nearly all men who learned to fly as teenagers
- C) Both these companies have already begun large-scale production of a genuinely new small airplane
- D) In fact, most airlines have introduced considerable reductions in their air fares
- E) A supply of inexpensive, safe, comfortable small planes could bring freedom and convenience to a broader share of the travelling public

95. As anyone who has sat through a lecture on a warm day knows, attentiveness and mental alertness can be hard to sustain. ----. Its counterpart is sleep, a state in which we continue to receive stimuli but are not conscious of them.

- A) It is also important to regulate sleep
- B) Researchers can study the electrical activity in the brain during arousal and sleep
- C) It filters out some familiar and repetitive information that constantly enters the nervous system
- D) Arousal is a state of awareness of the outside world
- E) In general, the less mental activity that takes place, the more regular are the brain waves recorded on the electroencephalogram (EEG)

96. Most people are familiar with one important function of the kidneys – to rid the body of waste materials that are either ingested or produced by metabolism. A second function that is especially critical is to control the volume and composition of the body fluids. For water and virtually all electrolytes in the body, the balance between intake and output is maintained in large part by the kidneys. ----.

- A) Each kidney in the human body is made up of about 1 million *nephrons*, each capable of forming urine
- B) This regulatory function of the kidneys maintains the stable environment of the cells necessary for them to perform their various activities
- C) Blood flow to the two kidneys is normally 21 per cent of the cardiac output, or about 1,200ml/min
- D) The two kidneys lie on the posterior wall of the abdomen, outside the peritoneal cavity
- E) These include urea, uric acid, creatinine and metabolites of various hormones

97. In 1862, the English doctor John Langdon Down, who was the director of a home for mentally handicapped children, described the case of one of the children, who was short and had stubby fingers and unusual eyelids. The boy's condition was later labelled by this doctor's surname. ----. In 1959, the French paediatrician Jérôme Lejeune discovered that these children have three copies of chromosome 21, instead of two.

- A) Physical limitations continue to challenge these individuals
- B) Today, more than 350,000 Americans have Down's syndrome
- C) But the cause of Down's syndrome was not uncovered for another century
- D) Scientists confirmed that within this chromosome are the genes that cause both Down's syndrome and Alzheimer's disease
- E) In 2004, American scientists tracked the effects of other genes on chromosome 21

98. In the 1990s, most psychiatrists in the US started to treat children and teens with antidepressants designed for adults, since they wanted something more for them than talk therapy. ----. Now, however, studies have found that some antidepressants might interfere with normal patterns of growth in children's still developing brains.

- A) Although these drugs had not been tested in the young brains of children, they hoped the benefits would outweigh the risks
- B) Several brain areas are commonly associated with depression such as those involved in mood, sleep, appetite, desire and memory
- C) Finding these effects in mice is a long way from proving that the same thing happens in humans
- D) Adults with depression usually recognize that they have a problem and they want to fix it, but children rarely ask to see a psychiatrist
- E) Concerns over antidepressant use led the FDA to issue a warning label for these medications

99. Ulcerative colitis is a disease in which extensive areas of the walls of the large intestine become inflamed and ulcerated. Some clinicians believe that it results from an allergic or immune destructive effect, but it could also result from a chronic bacterial infection. ----.

- A) The person may also have a fever and a poor appetite
- B) Even then, the ulcers sometimes fail to heal, and the only solution is removal of the entire colon
- C) Moreover, about 10 per cent of people who have the disease have only simple attacks
- D) Whatever the cause, there is a strong hereditary tendency for susceptibility to this disease
- E) Unlike Crohn's disease, ulcerative colitis never affects the small intestine

100. An independent city close to Berlin, Potsdam has almost 150,000 inhabitants and is the capital of Brandenburg. ----. The town blossomed in the 1600s, during the era of the Great Elector, and then again in the 18th century, when the splendid summer palace, Schloss Sanssouci, was built for Frederick the Great. Potsdam suffered badly in World War II, particularly on April 14 and 15, 1945, when the Allies bombed the town centre.

- A) The Marmorpalais (Marble Palace) is located on the edge of the lake in the Neuer Garten, a park northeast of Potsdam's centre
- B) Despite its wartime losses, Potsdam is today one of Germany's most attractive towns
- C) The Schloss Cecilienhof played an important role in history in 1945, when it served as the venue for the Potsdam Conference
- D) The first documented reference to the town dates from A.D. 993; it was later granted municipal rights in 1317
- E) Tourists flock to see the magnificent royal estate, Park Sanssouci, and to stroll in the Neuer Garten

101. ----. For instance, Alpine scenery predominates in the Tatra Mountains to the south, while the North is dominated by lakes. Mountain lovers can make use of the well-developed infrastructure of hostels and shelters, such as those found in the Tatras. The countless lakes of Warmia and Mazuria, collectively known as the Land of a Thousand Lakes, are a haven for water-sports enthusiasts.

- A) Since 1989, many new luxury hotels have been built in Poland and the majority of them belong to international hotel chains
- B) Poland's borders have changed continually with the course of history
- C) Bordering the Baltic Sea, Poland is one of the largest countries in Central Europe, with a population of around 39 million
- D) Warsaw, the capital of Poland, is located at the centre of Poland, on the banks of the Vistula River
- E) Although situated on the plains of Central Europe, Poland has an extremely varied landscape

102. The Scandinavian countries – Denmark, Norway, Sweden, and Finland – are, arguably, among the least-populated countries in Europe. ----. Away from the main towns and cities lie vast expanses of unspoiled, often wild terrain, from the breathtaking Norwegian fjords to the dense pine forests and clear lakes of Finland. Smaller and largely flat and rural, Denmark shares characteristics with both mainland Europe and Scandinavia proper.

- A) In Norway, Sweden, and Finland, the majority of the population lives in the south, in affluent, modern cities, which are also rich in history and tradition
- B) Sweden is Europe's fifth-largest country, with an area about the size of California
- C) Finland's main cities are all served by an efficient railroad system and regular, inexpensive internal flights
- D) Norway is so long and narrow that, if Oslo remained fixed and the rest were turned upside down, it would stretch all the way to Rome
- E) Oslo, Norway's capital, is an attractive city of grand Neoclassical buildings, wide boulevards, and green open spaces

103. With more than 600 species of orchids, Nicaragua is prime territory for one of nature's most exquisite treasures. The Selva Negra Mountain Resort in the central part of the country boasts at least 140 species in its grounds, with 14 hiking trails that make orchid sightings anything but rare. ----. The best time to visit this particular region is in the dry season, from February to May, when there is little rain and temperatures are cool.

- A) The *dodsoniana*, one of these newly identified species, was found just 4 years ago
- B) Five new species have been discovered in recent years in other parts of the country
- C) Selva Negra is situated in a cloud forest – an ecosystem ideal for orchids and other air plants
- D) If an orchid's growing conditions are gradually modified to acclimatize it to a new location, the plant can make a healthy transition
- E) In fact, the *Stanhopea* flower looks like a hovering butterfly, and some are very aromatic, with a fragrance of vanilla or hot chocolate

104. Ballet is theatrical representation in dance form in which music also plays a major part in telling a story or conveying a mood. Some such form of entertainment existed in ancient Greece. ----. From there, it was taken by Caterina de' Medici in the 16th century to France in the form of a spectacle combining singing, dancing, and speech. During the 18th century, there were major developments in technique, and ballet gradually became divorced from opera, emerging as an art form in its own right.

- A) Ballet developed in the UK through the influence of Marie Rambert
- B) But Western ballet as we know it today first appeared in Renaissance Italy, where it was a form of court entertainment
- C) Ballet developed further in the USA through the work of George Balanchine and the American Ballet Theater
- D) In fact, it was drama, rather than ballet, which greatly appealed to the Greeks
- E) In the 20th century, Russian ballet had a vital influence on the classical tradition in the West

105. In finance, interest, which is a sum of money paid by a borrower to a lender in return for the loan, is usually expressed as a percentage per annum. ----. In compound interest, the interest earned over a period of time is added to the principal, so that at the end of the next period, interest is paid on that total.

- A) Nevertheless, certain problems remain in perennial interest, and these fall into two main groups
- B) The theory of capital was not a matter of primary concern to economists in the late 20th century
- C) Simple interest is calculated as a straight percentage of the amount loaned or invested, called the principal
- D) However, it may be expressed either in money terms or as a rate of payment
- E) Various theories have been developed to account for and justify interest

106. Is there such a thing as a “gay brain”? ----. Gay men tended to have brains that were more like those of straight women than of straight men – the right and left sides were about the same size, the researchers found. Gay women’s brains tended to be more like those of straight men than of straight women – the right side tended to be slightly larger than the left.

- A) Such research is full of uncertainty, and it could not rule out the possibility that the findings were the result of changes that occurred in response to experiences and behaviours, rather than being inborn
- B) Some scientists say the new findings are part of an increasingly convincing body of evidence that suggests sexual orientation results from fundamental developmental differences that are probably caused by hormonal exposures in the womb
- C) Some scientists remain sceptical, saying that there has been a history of jumping to conclusions and over-interpreting findings in the field of human sexual orientation
- D) In 1991, brain scientists reported that the hypothalamus, which is involved in sexual behaviour, tended to be smaller in gay men than in straight men
- E) To find out, scientists used magnetic resonance imaging, or MRI, to compare the symmetry of the brains of 25 “straight” men and 25 “straight” women with those of 20 gay men and 20 gay women

107. In 1815, on the Indonesian island of Sumbawa, Mount Tambora blew up in the largest volcanic eruption in recorded history, ejecting 20 times the amount of rock that flew from Vesuvius in 79 A.D. Superhot ash and rock burned or buried all in its path, including the tiny kingdom of Tambora. The death toll was 92,000. Wind-blown clouds from the 27-mile-high plume of ash dimmed the Sun’s rays. ----. After the eruption, Sumbawa was largely uninhabited for decades.

- A) Scientists have uncovered three houses under ten feet of ash near Tambora
- B) As a result of the darkness, crops in the surrounding regions failed, and many people went hungry
- C) Volcanologists are searching the area with ground-penetrating radar
- D) Archaeologists will continue excavating the area
- E) Some scientists say that Tambora could be the Pompeii of the East

108. The honeybees that pollinate agricultural crops in the US were bred from stock originally brought over from Europe in the 1600s. ----. Whether caused by a new insecticide, disease, or a mix of stressors, the losses have resulted in a great deal of research and a query: Could native bees take their place? Of the thousands of US species, some efficiently tend crops like apples and alfalfa. A few, like the orchard mason bee, are already in commercial use. Advocates are fighting to preserve wild and weedy lands that support these natives.

- A) The US honey yield for 2006 was 155 million pounds, and 33% of the US diet was tied to honeybee services
- B) The big, social colonies of honeybees are ideal for commercial pollination, and entire colonies are often transported to different farms
- C) However, some once common native bee species are in decline and data on others are incomplete
- D) Honeybees remain important workers in the US, where the value of their pollination work is \$14.6 billion a year
- E) Since 2006, however, hundreds of thousands of these honeybees have died out in what is being called *colony collapse disorder*

109. The biofuels currently manufactured in the US are doing great things for some farmers and some large agricultural companies, but little for the environment. The corn used to manufacture ethanol requires large doses of herbicide and nitrogen fertilizer and can cause more soil erosion than any other crop. ----. Biodiesel from soybeans is only slightly better. Environmentalists also fear that rising prices for both crops will push farmers to plow up some 35 million acres of marginal farmland now set aside for soil and wildlife conservation, potentially releasing even more carbon from the soil in those fields.

- A) Unlike the ancient carbon unlocked by the burning of fossil fuels, the carbon in biofuels comes from the atmosphere and is returned there when the fuels are burned
- B) Such renewable fuels could also improve the US economy and help it to become less dependent on other countries
- C) The boom in corn production has pushed corn prices to levels not seen in years, causing US growers to plant the largest crop since World War II
- D) Additionally, producing corn ethanol consumes just about as much fossil fuel as the ethanol itself replaces
- E) The key to intelligent biofuel production is to learn how to make it from plant material other than food, such as plant stalks, grasses, fastgrowing trees, or even algae

110.---- Forests are dying, most impressively by burning. The damage done by wildfires in the US, the vast majority of them in the western states, has increased greatly since the late 1980s. In 2006, nearly ten million acres were destroyed. With temperatures in the region up by 2°C over the past 30 years, spring is coming sooner to the western mountains. The snowpack – already diminished by drought – melts earlier in the year, drying the land and creating perfect conditions for wildfires. As hotter summers extend into autumn, the fires are ending later as well.

- A) People in the western part of the US are not yet suffering from water shortage, but trees are
- B) It is thought that precipitation in the southwestern US will decline steadily over the next few decades
- C) The fires are not only more frequent; they are also hotter and more damaging
- D) Most forests in the southwest of the US have always burned frequently, but at low intensity
- E) The typical tree bears the marks of many such fires, with black scars where the flames consumed the bark

111.For many Central American immigrants heading north, the first dangerous border crossing is not the one into the US. It's southern Mexico where the danger begins. Every year, hundreds of thousands of Central Americans cross illegally into Mexico along the country's southern border. ----. The pace of illegal migration north has increased dramatically over the past decade, propelled in part by the lingering effects of the 1970s and 80s civil wars in Guatemala, El Salvador, and Nicaragua.

- A) The US wants Mexico's southern border to more secure, even as American employers demand cheap labour and American drug users demand smuggled cocaine
- B) Guatemalan border towns are growing quickly as they cater to the growing number of migrants north to Mexico
- C) Nobody knows exactly how many of those migrants are headed to the United States, but most experts estimate the figure to be 150,000 or more a year
- D) The simplicity with which people and goods pass illegally across Mexico's southern border is obvious to anyone who spends time there
- E) The US government has already put much pressure on Mexico so that illegal migration can be stopped completely

112.Until recently, Sudan's Nubian history remained largely unknown. ----. They have recognized that these pharaohs came from a strong African civilization that had flourished on the southern banks of the Nile for 2,500 years, going back at least as far as the first Egyptian dynasty. The most important remains of this civilization are the pyramids in the Nubian Desert, which are greater in number than those in Egypt.

- A) Human figures in Egyptian, Greek, and Roman art indicate a clear awareness of racial features
- B) Only in the past four decades have archaeologists uncovered the story of the so-called "black" pharaohs
- C) Sudan's pyramids are extremely interesting structures and have not been properly studied
- D) Therefore, The Sudanese government has decided to build a dam on the Nile, 970 kms upstream from Egypt's Aswan High Dam
- E) The Nubian Desert, which is vast and extremely uninhabitable, needs to be fully explored

113.The United Arab Emirates' (UAE's) poultry sector has lost \$5.5 million because of a 50% cut in consumption due to bird flu fears. Many small farms have been forced to close, and production has been cut by 30%, with surplus meat being frozen and sold off cheaply. The consumption of eggs has not been affected. ----.

- A) Nevertheless, the country claims to be free of the disease
- B) Moreover, Kuwait and Saudi Arabia have announced cases of bird flu on their territories
- C) In fact, the UAE's oil income has doubled over the last few years due to a sharp rise in its exports
- D) Among the Gulf states, it is the UAE that most aspires to become a major global investor
- E) However, the UAE is facing big increases in the price of consumer goods and transport equipment imported from Europe

114. Jordan's 1994 peace deal with Israel has paved the way for growing economic links between the two countries. Jordan is now taking the lead in encouraging other Arab states to improve relations with Israel. ----. He has argued that future peace initiatives should come out of the region itself, rather than being designed and imposed by foreign authorities.

- A) The US permits all Jordanian textiles to be exported to the US as long as they have a minimum 8% Israeli content
- B) According to some diplomats, economic cooperation between Jordan and Israel is rather more advanced than political cooperation
- C) King Abdullah of Jordan has also raised hopes that the Saudi Middle East peace plan of 2002 might be revived by persuading the Arab League to make the plan more attractive to Israel
- D) Actually, the two countries signed an economic agreement in 2002 in order to establish joint ventures in all the sectors
- E) Jordan has made relatively rapid economic progress during the five years since King Abdullah ascended to the throne

115. This year, the map of international adoptions will be redrawn. The US, which adopts the most children from abroad, will become a full participant in the Hague Convention on Intercountry Adoption. The treaty regulates adoption among the 74 members and helps ensure that adoption agencies comply with convention rules, which call for counselling for adoptive parents and ban child buying. ----. Although it is a Hague signatory, the country has been accused of child trafficking.

- A) Numbers of adoptions to the US from other Hague participants are expected to rise
- B) When the Cold War ended, Russia and former Soviet-bloc countries opened to adoption
- C) With a dropping birthrate, Russia now favours local families, as does China
- D) Adoptive parents often embrace the culture of their new child
- E) That could be a problem for Guatemala, a mainstay of US adoption for a decade

116. The liver receives blood from both the intestine and the heart. Tiny capillaries in the intestinal wall drain into the portal vein, which enters the liver. ----. The hepatic artery brings blood to the liver from the heart. This blood carries oxygen for the liver tissue itself as well as cholesterol and other substances for processing.

- A) The liver converts substances in digested food into proteins
- B) The liver manufactures about half of the body's cholesterol
- C) Abnormalities of liver function can be divided broadly into two groups
- D) Sugars are stored in the liver as glycogen
- E) The blood then flows through tiny channels inside the liver

117. Normally, the pancreas secretes pancreatic juice through the pancreatic duct to the duodenum. ---. Blockage of the pancreatic duct stops the flow of the pancreatic juice. Usually, the blockage is temporary and causes limited damage, which is soon repaired.

- A) The pancreas is a leaf-shaped gland about five inches long
- B) Acute pancreatitis is a sudden inflammation of the pancreas
- C) This pancreatic juice contains digestive enzymes
- D) Almost everyone with acute pancreatitis suffers severe abdominal pain in the upper midabdomen
- E) No single blood test proves a diagnosis of acute Pancreatitis

118. ----. Studies on rats show that every drop of sugar syrup they swallow causes a surge in their dopamine levels – a sign of desire and a biochemical marker of substance abuse. Boosting dopamine time after time is what drugs of abuse do. That makes scientists wonder whether food also has addictive properties.

- A) Some researchers have begun to suspect that obesity, eating disorders, and even the ordinary urges of appetite might resemble drug addiction
- B) Evolution has furnished us with several neurochemicals and neural circuits that make eating a deeply pleasurable activity
- C) Scientists now realize that appetite and hunger are not regulated only by energy balance in the body, but also by human psychology
- D) The appetite-regulation network in the human body has evolved over millions of years to err on the side of over-eating
- E) The same brain receptors that bind the opioids released by eating high-calorie food also respond to morphine and heroin, with more pronounced results

119. The McGill Pain Questionnaire (MPQ) is the most frequently used pain questionnaire. It has been used to assess pain relief in a variety of treatment programmes and has demonstrated some validity in assessing multiple pain syndromes. ----. Sensory qualities of pain are its temporal, spatial, pressure and thermal properties; affective qualities are its fear, tension and autonomic properties that are part of the pain experience; and evaluative qualities are the words that describe the subjective overall intensity of the pain experience.

- A) Pain has physical and psychological elements, both of which can be quantified and measured
- B) The measurement of pain is important because it allows clinicians to quantify their patients' pain
- C) Self-reports of pain include simple rating scales, standardized pain inventories, and standardized personality tests
- D) The questionnaire provides a subjective report of pain and categorizes it in three dimensions
- E) Pain rating scales make no distinction, for example, among pains that are pounding, shooting, stabbing or hot

120. Although skin cancer is associated with a behavioural risk (voluntary exposure to the sun over a long period of time), it also has a strong genetic component. Light-skinned, fair-haired, blue-eyed individuals, compared with darkskinned people, are more likely to develop skin cancer, and much of their damage occurs with sun exposure during childhood. ----. They must take protective measures, including using sunscreen and wearing protective clothing while exposed to the sun.

- A) Not all skin cancers are innocuous; one form, malignant melanoma, can be deadly
- B) Twenty-five per cent of adults in the US sunbathe frequently, and one-fourth of those do not use sunscreens at the recommended levels
- C) Skin cancer is the most common form of cancer, but most types of skin cancer are curable
- D) During the past 50 years, the relationship between skin cancer mortality rates and geographic latitude has gradually decreased
- E) These people should avoid prolonged and frequent exposure to the sun

121. Logistics as a business concept began to gain ground in the 1950s, particularly in the US. This was because, as businesses expanded and reached out both to far-flung markets and sources of materials, the need for expert logisticians became imperative. Logisticians applied their own ingenuity to create companies that aimed to deliver the right item in the right quantity at the right time in the right place for the right price. ----. Indeed, with increasing globalization and ever longer and more complex supply chains, logistics companies have become ever more sophisticated and adaptable.

- A) The US has led the way in the development of efficient logistical systems
- B) No region in the world requires efficient logistics more urgently than Africa does
- C) Logistics is considered one of the most important aspects of military campaigns
- D) The problems of the logistics industry have not been clearly identified yet
- E) These aims have not changed, but the world has

122. The year 1960 seemed golden and full of promise. Despite nearly constant international tension, everyday life in Europe and North America seemed to be improving. Economies recovered, many standards of living rose, and new forms of culture flourished. The economic horizon looked bright. ----. Western Europeans could no longer be so certain of their prosperity or of their leaders' ability to provide the sort of life they took for granted.

- A) Legal changes would not have occurred without women's movements of the time
- B) These changes marked a new culture of mass consumption boosted by marketing, advertising, and credit payment
- C) However, by 1990, most of the familiar landscape had been dramatically transformed
- D) The civil rights movement in the US had enormous significance for the twentieth century
- E) The most serious outbreak of student unrest in Europe came in Paris in the spring of 1968

123. St. Petersburg is not just a city of names and movements. It is also a city of bridges, with more of them than any other city in the whole world. With its 101 islands, it is also worthy of the title "city of islands." Not only that, but it has enough canals to compete with Venice, Amsterdam, and Stockholm. ----. As Dostoevsky's hero puts it, "It is the most abstract and fantastic city on earth."

- A) But most of all St. Petersburg is a city of culture, of literature and poetry in particular
- B) There are a total of 539 bridges, including 315 in the city centre
- C) The sports facilities and activities in it cannot go unnoticed
- D) The people of St. Petersburg are offered various educational opportunities
- E) A considerable number of painters and sculptors have lived there, too

124. Despite numerous intellectual and literary advances, the longest-lived achievements of the Italian Renaissance were made in the realm of art. Of all the arts, painting was undoubtedly supreme. Although Giotto was the great artistic genius around 1300, it was not until the fifteenth century that Italian painting began to come fully of age. ----. Fifteenth-century artists also experimented with effects of light and shade and, for the first time, carefully studied the anatomy and proportions of the human body.

- A) From about 1450 until about 1600 Italian thought was dominated by a school of Neo-Platonists, who sought to blend Platonism with Christianity
- B) One reason for this was that, in the early fifteenth century, the laws of linear perspective were discovered and first employed to give the fullest sense of three dimensions
- C) Sixteenth-century Italian writers, such as Machiavelli, Ariosto, Tasso, and Sannazaro, were also highly accomplished creators of imaginative prose and verse
- D) Perhaps the greatest of the Florentine artists was Leonardo da Vinci, one of the most versatile geniuses who ever lived
- E) Most Venetian painters showed little of the Florentine school's concerns with philosophical and psychological issues

125. World War II left Europe a land of wreckage and confusion. Millions of refugees travelled hundreds or thousands of miles on foot to return to their homes while others were forcibly displaced from their lands. ----. Food remained in dangerously short supply, and even a year after the war roughly 100 million people in Europe still lived on less than 1,500 calories per day.

- A) In some areas housing was practically nonexistent, with no available means to build anew
- B) The Soviet campaign to control eastern Europe did not go unchallenged
- C) Historians estimate that in World War II nearly 50 million people died
- D) Even more than World War I, World War II involved the combined efforts of whole populations
- E) Since industry was essential to winning the war, centres of industry became vital military targets

126. Western perceptions of the Middle East as a viable tourist destination have been adversely affected by the 9/11 terrorist attacks in the US, the subsequent war on terrorism, and the war in Iraq. Indeed, the impact of the 9/11 attacks upon the tourist sector in the region has been profound. ----. North Africa in general and Tunisia in particular have fared comparatively well, but Morocco has suffered badly.

- A) Morocco is already one of the biggest tourist destinations in the Middle East and North Africa, drawing 2.25 million visitors a year
- B) Especially, the effect on visitor numbers has been decisive although it has varied considerably from country to country
- C) Morocco has a better developed domestic beach culture than probably anywhere else in the Middle East or North Africa
- D) The target of 10 million visitors a year by 2010 may have been a little over-optimistic, although Egypt has made huge investments
- E) Some of the driest parts of Morocco lie on the coast, and so one feasible option is to pipe water there from the Atlas Mountains

127. In physics, a force is a push or pull on an object. There are four fundamental forces, three of which are involved in keeping stable atoms in one piece and determining how unstable atoms will decay. ----. The electromagnetic force keeps electrons attached to their atom; the strong force holds the protons and the neutrons together in the nucleus; and the weak force governs how atoms decay when they have too many protons or neutrons. The fourth fundamental force, gravity, only becomes apparent with objects much larger than subatomic particles.

- A) These are the electromagnetic force, the strong force, and the weak force
- B) There is a fourth fundamental force, which scientists have not yet been able to identify
- C) Decay of unstable atoms is a phenomenon that has been discovered recently
- D) To describe in detail how atoms behave, scientists have developed the quantum theory
- E) Under certain conditions, unstable atoms are affected by other forces

128. The Internet is a computer-based global information system. ----. Each of these Networks may link tens, hundreds, or even thousands of computers, enabling them to share information with one another. The Internet, in this sense, has made it possible for people all over the world to communicate with one another effectively and inexpensively.

- A) It does not have a centralized distribution system as do radio and television
- B) It is composed of many interconnected computer networks
- C) It has become increasingly common, especially over the past two decades
- D) Anyone who has access to the Internet can reach a vast source of information
- E) Many individuals use the Internet for communication and research

129. Astronomy is the study of the universe and the celestial bodies, gas, and dust within it. Astronomy includes observations and theories about the solar system, the stars, the galaxies, and the general structure of space. People who study astronomy are called astronomers. ----. These methods usually involve ideas related to the laws of physics, so most astronomers are, at the same time, astrophysicists.

- A) A wide range of astronomical objects are accessible to astronomers
- B) Astronomy is the oldest science, dating back thousands of years
- C) Using a variety of equipment, they analyze the objects in the sky
- D) They use a wide variety of methods while performing their research
- E) The astronomers' field of study is distinct from that of the astrophysicists

130. Geneticists seek to understand how the information encoded in genes is used and controlled by cells, and how the smallest differences in genes can disrupt an organism's development. Increasingly, modern genetics involves genetic engineering, a technique used by scientists to manipulate genes. Genetic engineering has led to many advances in medicine and industry. ----.

- A) Nevertheless, there has been less misconduct than was once predicted
- B) For instance, there are controversies over the possible unethical use of this technique
- C) In fact, much of the controversy over the use of genetic engineering has nothing to do with recreating life
- D) As a result, there has been much unethical use of genetic engineering
- E) However, the potential for abuse of this technique has also provoked many ethical and legal controversies

131. Weather forecasting involves predicting how the present state of the atmosphere will change. Present weather conditions are obtained by ground observations, observations from sea and aircraft, Doppler radars, and satellites. ----. These charts, maps, and graphs are then sent electronically to forecast offices, where local and regional weather forecasts are made. In addition, these offices prepare weather advisories and warnings of severe weather.

- A) Electronically transmitted observations are generally used instead of charts, maps, and graphs
- B) Forecast offices send charts, maps, and graphs to satellites and other sources of information
- C) This information is sent to meteorological centres, where data are collected, analyzed, and made into charts, maps, and graphs
- D) Such equipment is controlled electronically by charts, maps, and graphs in forecast offices
- E) Weather advisories and warnings of severe weather help meteorologists to prepare charts, maps, and graphs

132. Technical changes may influence employment in several ways. They may bring about a permanent reduction of the number of workers in certain occupations and increases in others. ----. The first of these is illustrated in the changes that have occurred in the number of workers in agriculture. The result of the development of mass production tools, on the other hand, has been a reduction of the labour needs of the industries using these tools.

- A) They may also produce temporary or permanent displacement of workers
- B) They may also require sharp increases in clerical occupations
- C) Another result may be a higher degree of flexibility in the skills
- D) It is also possible for workers to depend upon a regular cash income
- E) There may be a decrease in the production of goods as well

133. Probably everyone who makes an anthology finds that at some stage it begins to take its own shape, and that the final form was not foreseen. ----. He has then to consider the favourites of the public. Moreover friends may direct him to pieces he has missed.

- A) Indeed, people often outgrow their favourite pieces
- B) No one has the same favourite poems
- C) His own favourites are his first choice
- D) Of course, some poems seem to be everybody's favourites
- E) There are only a handful of poems I would call favourites

134. Here we are in this complicated world. We did not make it; but we find ourselves in it. We have to do our best to survive in it. ----. And we would like to improve those parts of it over which we have any control or influence.

- A) We also hope to enjoy being alive in it with our fellows
- B) This, of course, is just another philosophical view
- C) We need to understand the world better
- D) Perhaps that would be to act in a rather selfish way
- E) In the first place, a better understanding of ourselves is essential

135. The Renaissance, as both a period and a concept, continues to generate lively debate about its origins and influence on European culture and thought. ----. Any new evaluation of the historical significance of the Renaissance requires attention to these kinds of primary evidence.

- A) As the Renaissance slowly spread across Western Europe, each nation made its own distinctive contribution to the era
- B) Recent research has emphasized the need to look again at original texts, documents, and artefacts
- C) A glance at the history of the preceding centuries shows that after the dissolution of the Roman Empire, there was no possibility of any intellectual revival
- D) The great achievements of the Renaissance were the discovery of the world and the discovery of man
- E) The Italian Renaissance had placed human beings once more in the centre of life's stage and infused thought and art with humanistic values

136. If politics is defined broadly as competition for power over people and things, then it is clear that all societies have some sort of political system. ----. It may initially seem that some small-scale societies have no politicians or political organizations at all, but they are present though on a very small scale.

- A) Nevertheless, political roles are usually temporary and short term
- B) In the early 20th century, anthropologists developed several useful systems for classifying societies
- C) Large-scale societies have many different continuing political offices
- D) All societies impose some degree of control on their citizens
- E) However, there can be a vast difference in what political organizations look like and how they function in different kinds of societies

137. People may be obese not because they eat too much, but because they spend too little energy. Some obese people are so extraordinarily inactive that even when they eat less than lean people, they still have an energy surplus. ----. Physical activity, then, is a necessary component of nutritional health.

- A) More than one-third of the overweight population report no physical activity during their leisure time
- B) Weight-loss advice does not apply equally to all overweight people, since some people may risk more in the process of losing weight than in remaining overweight
- C) Modest weight loss, even if a person is still overweight, can reduce the risks of heart disease by lowering blood pressure and blood cholesterol
- D) Reducing their food intake, however, would further threaten their health by causing nutrient deficiencies
- E) An estimated 30-40% of all US women are trying to lose weight at any given time, and spending up to \$40 billion each year to do so

138. The discovery of three of the four basic blood groups was made by Karl Landsteiner at Vienna's Institute of Pathology in 1901 and 1902. The fourth group, AB, was discovered by two of Landsteiner's colleagues a few years later. The ability to match the blood types of donor and recipient would greatly reduce the incidence of fatalities from transfusion reactions. However, this breakthrough was largely ignored for more than a decade. ----. Therefore, a large number of patients continued to experience posttransfusion fever, chills, kidney pain, bloody urine and death.

- A) R. Ottenberg, a pathologist and haematologist in New York, performed 125 successful transfusions without bad reactions by using compatibility testing
- B) Few physicians considered Landsteiner's work of much importance or even seemed to be aware of it
- C) Of all the problems facing physicians, blood's ability to coagulate or to clot was the greatest
- D) In essence, O. H. Robertson, a physician in the US Army, set up the world's first system of blood banking
- E) In the 1880s, the European medical community lost its enthusiasm for blood transfusions after performing hundreds of unsuccessful trials

139.The development of effective anti-retrovirals has transformed AIDS into two diseases: one for the rich and quite a different one for the poor. ----. So, they can think of their illness as a chronic condition with which they may live for decades. The incidence of new cases has also dropped significantly. By contrast, in much of the developing world, HIV infection is still largely a near-term death sentence, and the far greater incidence is only just beginning to level off.

- A) In the developed world, people with HIV have access to health care
- B) Poor people with HIV generally rely on health aid packages from developed countries
- C) The disease still cannot be cured completely, but has been made less immediately lethal
- D) Scientists estimate that the number of HIVinfected people will soon have doubled
- E) People in poor countries are at a greater risk of catching the disease due to poor living conditions

140.Mothers around the world are getting older. In the UK, the mean age for having a first child is 27.3, compared with 23.7 in 1970. Mean age at first birth in the US has also increased, rising from 21.4 in 1970 to 24.9 in 2000. ----. Studies by the US National Heart, Lung and Blood Institute found that the risk of a child being obese increases by about 14% for every five extra years of the mother's age.

- A) In the US, in 2004, the percentage of women in their 40s who had one child was 17.4
- B) Researchers also found that first-born offspring have more fat than their younger siblings
- C) In 1964, the British woman gave birth to an average of 2.95 children
- D) According to recent studies, having an older mother seems to be an independent risk factor for obesity
- E) This combination of older mothers and more single children could be contributing to the obesity epidemic

141.Embarrassment seems likely to serve three basic functions. First, it serves as a pacification gesture to others by signalling that the violation was unintended and that it will not likely be repeated. Second, the intense dread of experiencing this emotion probably deters us from repeating whatever behaviours triggered the state. ----. Just as physical pain alerts us to threats to our physical well-being, embarrassment alerts us to threats to our social well-being. Third, embarrassment motivates us to undo the social damage and restore the esteem of others.

- A) Therefore, our social well-being relies greatly on how we fit into the society and how the society responds to us
- B) Naturally, we try to avoid socially unacceptable situations that might result in rejection
- C) Such a dread is the outcome of an unintentional violation of social rules and manners of conduct
- D) Repetition of such behaviours in various instances may be either deliberate or unintended
- E) In this sense, embarrassment can be regarded as a social counterpart to physical pain

142.Most foreign tourists visiting London come to see the Houses of Parliament. This monumental Gothic building on the River Thames is probably Britain's best-known landmark. Indeed, the people who come to visit it may know very little and care even less about what happens inside, but they appreciate the place as one of the greatest achievements of nineteenth-century art. ----. Indeed, the Parliament is a magnificent building.

- A) Before the Norman Conquest in 1066, King Edward the Confessor established his palace on the site
- B) Also, most of those who work daily in the building remain awed by its artistic power
- C) The disaster of the great fire of 1834 destroyed much of the medieval palace
- D) For security reasons, the Houses of Parliament can no longer be viewed by the general public
- E) The word "parliament" derives from the French word "parler", which means "to speak" or "to talk"

143. At the start of the twentieth century, Britain was still the greatest world power. By the middle of the century, although still one of the “Big Three”, Britain was clearly weaker than both the United States and the Soviet Union. ----. Its power had ended as quickly as Spain’s had done in the seventeenth century. One reason for this sudden decline of Britain was the cost and effort of two world wars.

- A) Indeed, by the end of the 1970s, Britain was no longer even among the richest European powers
- B) In electronics and technology, Britain is still a world competitor
- C) No one doubts that Britain is living in an age of uncertainty
- D) But the most important reason was the basic weaknesses in Britain’s industrial power
- E) The discovery of oil in the North Sea has given Britain a great deal of economic advantage

144. During World War II, the Allies had started to think of ways in which a new world order could replace the failed League of Nations. Even before it joined the war against Germany and its allies, the US had agreed on an “Atlantic Charter” with Britain. The basis of this new charter was US President Roosevelt’s “Four Freedoms”: freedom of speech, freedom of worship, freedom from fear, and freedom from want. At the end of the war, the victorious Allies created the United Nations, which expressed the ideas of the Atlantic Charter. ----.

- A) In the early 1960s, Britain was increasingly interested in joining the newly-formed European Community
- B) In 1948, the Soviet Union tried to capture West Berlin by stopping all road and rail traffic to it
- C) Thus, they hoped that the success of the wartime alliance could be carried into peacetime
- D) All these military and scientific developments drew Britain more closely to the US
- E) During the post-war period, Britain was seriously concerned about the danger from the Soviet Union

145. Little is known about the life of women in the Middle Ages, but without doubt it was hard. ----. It also spread two very different ideas about women. So, on the one hand, women were regarded as pure and holy, while, on the other, they could not be trusted and were a moral danger to men. Such religious teaching led men both to worship and also to look down on women.

- A) It is unlikely that love played much of a part in most marriages
- B) Marriage was always the single most important event in the lives of medieval men and women
- C) This was because by marriage a family could improve its wealth and social position
- D) The Church taught that women were always to obey their husbands
- E) Once married, a woman had to accept her husband as her master

146. Around 1550, the Renaissance in Italy began to decline. The causes of this decline were varied. - ---. The French King Charles VIII viewed Italy as an attractive target for his expansive dynastic ambitions. In 1494, he led an army of thirty thousand well-trained troops across the Alps to press his claims to the Duchy of Milan and the Kingdom of Naples.

- A) The French invasion of 1494 and the incessant warfare that ensued was one of the major factors
- B) Renaissance humanists were primarily interested in the study of classical texts
- C) To the Italian political disasters was added a waning of Italian prosperity
- D) As Italian wealth diminished, there was less and less of a surplus to support artistic endeavours
- E) Italy’s virtual monopoly of trade with Asia in the fifteenth century had been an economic support for the Italian Renaissance

147. Our knowledge of the Celts in Britain is slight. As with previous groups of settlers, we do not even know for certain whether the Celts invaded Britain or came peacefully as a result of the lively trade with Europe from about 750 B.C. onwards. At first, most of Celtic Britain seems to have developed in a generally similar way. ----. Consequently, this fall led to serious economic and political differences between the Celts of southeast Britain and those of the northwest.

- A) The Celts were joined by new arrivals from the European mainland
- B) The Celtic tribes continued the same kind of agriculture as the Bronze Age people before them
- C) The Celts knew how to work with iron and could make a variety of weapons
- D) But from about 500 B.C., trade contact with Europe declined
- E) During the Celtic period, women may have played an important role in political life

148. 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".

149. 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.

150. ---- 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.

151. 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.

152. 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.

153. The carpet is of eastern origin and in general can be said to differ from tapestry by the technique of its knotted weave. The refined technique and ornate geometrical patterns found on fragments discovered in eastern Turkestan, dating from the 5th and 6th centuries A.D., indicate a long evolution in the history of the carpet. ---- The Abbasid caliphs of Baghdad were also wellknown patrons of carpet manufacture: one made for Caliph Hashin early in the 8th century measured 100 yards by 50 yards. The most famous area of production was, however, northwestern Persia.

- A) The large carpets that decorate the mosque of Alaaddin date back to the 13th century.
- B) The earliest fragment of carpet still existing was found in Russia and is now in the Hermitage Museum in St. Petersburg.
- C) A change in the composition and decoration of carpets was made in Persia at the end of the 15th century.
- D) During the Sassanid dynasty in Persia (in the 6th and 7th centuries A.D.), carpets of wool and silk pile were already in great demand.
- E) The carpet industry in Egypt must have been of great importance at the end of the Middle Ages.

154. Castes are known in several societies, but the best known and most rigid example developed in India. It may have grown in the first two millennia B.C., chiefly with the object of preserving the pale-skinned Aryan invaders from admixture with the darker-skinned, indigenous Dravidians. ---- However, an increasing subdivision of castes was firmly established by the 5th century B.C., with strict rules of social conduct.

- A) Since British society was divided by class, the British attempted to equate the Indian caste system to their own social class system.
- B) In Hindu religious terms, the four main castes were of divine origin, having been born from different parts of Brahma.
- C) Caste rules have been considerably relaxed, especially in the last 40 years or so.
- D) The caste system was carried over into Indian Islam by those who converted to this faith.
- E) Distinctions were not particularly rigid in the early stages, and intermarriage was known.

155.---- In the argument, additional claims are made in support of the claim we are trying to persuade people to accept. But these additional claims may be challenged as well. Recognizing this, authors frequently anticipate the need to supply further support for their arguments.

- A) Recognizing that people generally require reasons to accept a controversial claim, we set forth an argument.
- B) Distractions make it hard, even for reasonable people, to reliably differentiate between reasonable and unreasonable courses of action.
- C) We think of reason as the capacity to use disciplined intelligence to solve problems.
- D) The word "argument" is ambiguous, for one of its senses is the dispute between two people.
- E) There comes a point for most people where it is no longer possible to suspend judgment.

156.For advertisers, the most important classification of advertisements is by the type of consumer, and they spend huge amounts of money and effort in trying to divide up the public so that it can be more precisely targeted. This process entails endless discussions about whether the best divisions are those of lifestyle, socioeconomic class, personality type, or of something else altogether. Then there is the fact that certain products are more often bought by men than by women, by the rich, by a certain age group, and so on. ----

- A) The advertiser must anticipate a prospective customer's preferences and persuade him to buy the product in question.
- B) Advertising has become too widespread geographically and too multifaceted in terms of media for any study to be comprehensive.
- C) Nevertheless, the issue of defining an ad is closely linked to that of defining its categories.
- D) In other words, when an ad appears on a wall or even a shirt, it is not the substance of this environment that matters, but its social meaning.
- E) So a given advertising approach will have far more of an effect on one group than on another.

157.During the 1960s, although Tanzania had adopted Swahili as its national and official language, it was the medium of instruction only until high school, where it was replaced by English. ---- Since then, Swahili has gradually been replacing English as the medium of instruction throughout all levels of the education system.

- A) British colonial education policies, like those of the Germans before them, were seen to be grounded in linguistic imperialism.
- B) Swahili also serves a symbolic function for the country, namely one of nationalism and unification.
- C) This situation lasted until an official change in policy was written into the country's Third Five-Year Plan in 1976.
- D) However, the role of English was central to the shaping of Tanzanians' cultural identities in colonial times.
- E) During the postcolonial 1950s and 1960s, many Third World societies concentrated on their socio-economic needs.

158.Down's syndrome, muscular dystrophy, and haemophilia may be among the best-known genetic diseases, but they are most certainly not alone. Several thousand human genes are linked, when they fail to work properly, to more than 4,000 heritable genetic diseases. Moreover, only a handful of these diseases are treatable. ---

- A) Deactivating such genes during embryonic development does not kill the embryo, which suggests that disease-related genes are recently evolved.
- B) Researchers have found that the majority of disease-causing genes were originally present in single-celled organisms and that most of the rest arose much later.
- C) Haemophilia, for example, achieved widespread visibility among the European public when it afflicted several generations of royal families on the Continent.
- D) The incidence of juvenile diabetes, another heritable disorder, is on the rise in the US, much to the alarm of public-health authorities.
- E) Any way of systematizing knowledge about them would thus be welcome, starting with features that the genes that cause diseases have in common.

159.In 1572, Michel de Montaigne, a French philosopher, observed that “there are men on whom the mere sight of medicine is operative.” Over the centuries, all manner of sugar pills and bitter tonics have been given to patients in the belief that they might do some good and probably will do no harm. ---- While some consider this a virtuous lie, others argue it is unethical.

- A) The problem is that doctors have usually prescribed such placebos while telling patients that they are sure to make them feel better.
- B) An added benefit of this approach is that the prescribed items are available at much lower cost than standard pharmaceuticals, thus relieving families financially.
- C) Fortunately, the American Medical Association advised its members in 2006 to use a placebo for diagnosis or treatment only if the patient is so informed and agrees to it.
- D) Similarly, so-called faith healing carried out by unconventional religious leaders has hundreds of thousands of believers worldwide.
- E) There are two explanations for the apparent popularity of placebos: they do, in fact, work; and they are used by overworked doctors to deal with troublesome patients.

160.Like many other activities, global health has fashions. ---- Recently, though, the focus has shifted to malaria. This tropical disease kills a million people a year, most of them children, and debilitates hundreds of millions more. That is why researchers are racing against one another to be the first to devise an effective vaccine.

- A) However, not all developing countries are struggling with health-related issues.
- B) Before Jonas Salk came up with his polio vaccine, many parents lived in fear of their children being struck down by the disease.
- C) In Eastern Europe, for example, there has been much concern about illicit drug use since the Cold War ended.
- D) For the past couple of decades, AIDS has captured both the imagination and the research dollars.
- E) In contrast, tropical diseases have not always received the attention they deserve from either national governments or international organizations.

161. ---- Their findings raise possible health concerns for those working in the manufacture of the materials. Carbon nanotubes are rolled-up sheets of graphite thousands of times thinner than a human hair. Because they are immensely strong and are good electricity conductors, they are poised for use in a wide range of fields, from engineering to medicine. However, their similarity in shape to asbestos fibres, which are known to damage the lungs, is giving rise to fears of their adverse effects on human health.

- A) Carbon nanotubes are unlikely to pose risks to the general public when incorporated into products.
- B) In studies done on mice, inhaling nanotubes affected the function of T-cells, a type of white blood cell that organizes the immune system.
- C) Scientists are trying to determine if the production of carbon nanotubes has any biological after-effect.
- D) Suppression by nanotubes of the immune system in mice has been halted by administering one of the standard anti-inflammatory drugs.
- E) Inhaling carbon nanotubes can suppress the immune system, according to scientists who have just completed a study of this new substance.

162.Infections in the roots of teeth are very difficult to treat. ---- The infected material must then be cleaned out completely and the drilled section filled in. Although the procedure is routine, it is common for some of the bacteria to survive and, therefore, for infections to re-emerge shortly after treatment.

- A) Wound infections bear some similarity to this and can result in gangrene if not treated successfully.
- B) The tooth needs to be drilled into, right down to the bottom of the nerve-carrying canal that runs through the root.
- C) This may help to explain the related mystery of why dentists have one of the highest suicide rates among professions.
- D) Surprisingly, salty foods are just as damaging to the teeth as sweet desserts like candy and cake are.
- E) Unfortunately, most medical-insurance plans do not cover such procedures, even though they are as traumatic to the body as some surgical operations.

163. The Africans who go abroad to work usually send money back home to pay for their relatives' medical care, education, and housing. Today, most African countries get the largest part of their foreign exchange earnings from such remittances. ---- Without this subsidy, Africa's dictators would have to face the political consequences of an angry population.

- A) In Africa, foreign aid goes mostly to those governments that have mismanaged their economies.
- B) There are over three million Nigerians in the US and another one million in Britain.
- C) From a quarter to almost 50% of universityeducated graduates from Ghana, Uganda, and Kenya leave their countries to work in the West.
- D) Ironically, African citizens abroad subsidize state corruption.
- E) About three million middle-class Zimbabweans have migrated to South Africa since 1999.

164. The United States and its allies cannot remain in Afghanistan indefinitely. For them, building a capable Afghan security force and a credible Afghan government is the fastest and most responsible exit strategy. ---- On the other hand, a security force can only be as good as its government, and the Afghan government has been crippled by corruption. However, national elections scheduled for this year provide an incentive for the Afghan government to continue to improve.

- A) Afghans' greatest concerns are access to electricity, jobs, water, and education.
- B) Indeed, more US troops are absolutely necessary to defeat the insurgents in Afghanistan.
- C) It is a clear fact that Pakistan is connected to the Afghan insurgency.
- D) The Pakistani army remains primarily focused on the perceived threat from India.
- E) However, US efforts so far to reach a decision for a complete withdrawal have been mixed.

165. After more than 30 years without building a nuclear plant, US power companies are seeking licences for over 30 new reactors. In addition, more than 300 reactors have been proposed worldwide. Countries such as Egypt, Nigeria, Saudi Arabia, and Venezuela have serious plans to build their first nuclear plant. ----

- A) In other parts of the world, some 40 reactors are already under construction, though many have been underway for decades with no end in sight.
- B) Annual emissions of greenhouse gases are expected to double by 2050, from a current 7 billion tonnes of carbon dioxide each year to more than 14 billion tonnes.
- C) According to a recent report, nuclear power is a major solution to the West's growing electricity needs, and increased nuclear use can substantially lower greenhouse gas emissions.
- D) On the contrary, a country's use of nuclear power has much to do with government intervention, whether through state loans or streamlined regulations.
- E) Therefore, global electricity demand is estimated to nearly double by 2030, with nuclear power currently accounting for about 15 per cent of global use.

166. For decades, China has been content to let the invisible hand of the market work its magic on the country's economy. But there's one area where the government wants to reassert state control: healthcare. ---- Today, nearly 40 per cent of the population can't afford to see a doctor. The average hospital stay for a Chinese citizen costs nearly as much as an individual's annual per capita income in the country. Healthcare grievances have been at the heart of thousands of organized protests countrywide in recent years.

- A) Some hospitals have had to hire security personnel to protect medical staff from angry mobs.
- B) By comparison, Japanese pay just 15 per cent of their medical spending out of pocket.
- C) So the government has recently developed a strategy to provide affordable medical insurance to 90 per cent of its population by 2010.
- D) In fact, the free market reforms in China were first initiated in the late 1970s and early 1980s.
- E) The Chinese government has already met many of its economic goals and is now beginning to address scientific and technological development.

167. The African Union is well aware that, although Africa has enormous agricultural potential, it still remains a major food importer. The majority of Africans live in rural areas and depend on agriculture for their livelihood; but the performance of the agricultural sector has been dismal. In addition to internal and structural problems that each African country faces, external setbacks such as climate change and global economic instability have made the conditions worse for growth and development in all sectors, including agriculture. ----

- A) The vision of the African Union is to achieve an integrated, prosperous, well-governed, and peaceful United States of Africa.
- B) These are some of the most serious issues that the African Union is determined to address as efficiently as possible.
- C) Africa seeks to promote existing and agreed-upon shared values across the continent at individual, national, regional, and international levels.
- D) All the African countries wish to eliminate ongoing conflicts and prevent the occurrence of new ones in order to achieve development and integration.
- E) Some of the values cherished and upheld by each African nation are good governance, democracy, respect for human rights, accountability, and transparency.

168. Turkey offers much for the naturalist, with rich marine ecosystems, abundant birdlife, and elusive larger mammals. Especially the rugged eastern provinces and also the regions with thick forests harbour a large variety of these mammals. ---- The tulip is perhaps the most famous of these. The great diversity of plants stems not only from the variety of habitats, which include arid plains as well as mountains and temperate woodlands, but also from Turkey's position as a "biological watershed" at the crossroads of Europe and Asia.

- A) There are huge tracts of unspoiled countryside, some of which have been set aside as national parks.
- B) Unfortunately, Turkish wetlands are under threat from dams, drainage, pollution, and climatic change.
- C) The country's position on the migratory flyways makes it a paradise for birdwatchers.
- D) The country is also floristically rich, with more than 11,000 plant species recorded.
- E) In winter, the country's lakes and wetlands hold thousands of wintering wildfowl.

169. As the hardest substance known, diamond is ideal for cutting rock and other tough stuff. ---- For cutting steel, the first choice is cubic boron nitride, which is almost as hard. But manufacturing the substance requires high temperatures and extreme pressures, which make it expensive.

- A) Making ultrahard materials usually requires extreme pressures.
- B) The hardness of diamond arises because of short, covalent bonds that keep the constituent atoms strongly stuck together.
- C) Scientists want to design new hard materials rather than finding them using trial-and-error methods.
- D) But diamond is costly, and it degrades machining steel and other ferrous metals because of reactions.
- E) The method should lead to even less costly, ultrahard compounds.

170. ---- There are those that affect the body surfaces they contact, and those that damage the general nervous system. Surface agents include phosgene gas, chlorine gas, hydrogen cyanide, and mustard gas. While the principal action of the first three occurs through inhalation, mustard is a blistering agent that damages any surface it contacts, including the skin. Nerve agents, on the other hand, which include the chemicals sarin, soman, and tabun, act by blocking the transmission of nerve messages throughout the body. A single drop of nerve agent can shut down the body's nervous system.

- A) A biological attack involves dispersing agents into the air.
- B) Chemical warfare involves the use of compounds to kill an enemy.
- C) Biological weapons use living microorganisms to infect large masses of people.
- D) Both biological and chemical weapons are considered weapons of mass destruction.
- E) Chemical warfare agents can be grouped into two general types.

171. Organisms use two types of cell division to ensure that DNA is passed down from cell to cell during reproduction. Simple one-celled organisms and some other organisms reproduce by a process called “mitosis”, during which a cell doubles its DNA before dividing into two cells and distributing the DNA evenly to each resulting cell. ---- Known as “meiosis”, this process involves sexual reproduction. In this process, an egg and sperm unite to form a zygote, in which the full number of chromosomes is restored.

- A) Organisms that reproduce sexually, on the other hand, use a different type of cell division.
- B) In all organisms, cells divide to produce new cells, each of which requires the genetic information in DNA.
- C) Mitosis occurs in five stages, namely interphase, prophase, metaphase, anaphase, and telophase.
- D) Modern genetics offers solutions to the reproductive problems that were once thought to be incurable.
- E) Each new cell needs a complete copy of an organism’s genetic information to function properly.

172. The irreversible loss of biodiversity has a serious impact on the ability of the remaining species, including humans, to survive. Humans depend on the diversity of species and healthy ecosystems to provide food, clean air and water, and fertile soil for agriculture. ---- As many as 40 per cent of our modern pharmaceutical medicines are derived from plants or animals. A small plant from Madagascar, the rosy periwinkle, for instance, produces substances that are effective in fighting two deadly cancers, Hodgkin’s and leukaemia.

- A) However, the survival of ecosystems depends on their variety of plants, animals, and habitats.
- B) In addition, we benefit greatly from the many drugs that biodiversity provides.
- C) In contrast, modern medicine makes use of medicines derived from both natural and chemical sources.
- D) Biologists believe that the Earth is currently going through a period of mass extinction.
- E) In such cases, direct habitat destruction threatens the greatest number of species.

173. A handful of countries produce a portion of their electricity from nuclear energy. ---- The world has witnessed one such disaster in recent history. The 1986 accident at the Chernobyl nuclear power plant in Ukraine scattered radioactive contamination over a large part of Europe. Approximately 200,000 people were evacuated, and human health has been dramatically affected ever since. Studies in 1999 found that the rate of thyroid cancer in young Ukrainian children was ten times higher than was the norm prior to the accident.

- A) The decades of the Cold War witnessed the dangerous escalation of a nuclear arms race.
- B) Most people are against its use for the production of electricity, as it is too costly.
- C) Nuclear weapons can cause wide-spread disaster.
- D) The first large-scale nuclear reactors were built in 1944 in the US, for the production of nuclear weapons material.
- E) Many people, however, are opposed to nuclear power stations, on the grounds that an accident can cause massive devastation.

174. Intercultural communication in its most basic form refers to an academic field of study and research. It seeks to understand how people from different countries and cultures behave, communicate, and perceive the world around them. The theories developed by the researchers and academics can be and have been applied to many fields. ---- Many multinational companies need to know how best to structure themselves, manage staff and communicate with customers. Intercultural communication gives them an insight into the areas they need to address or understand.

- A) Working in a company brings to the surface many issues in terms of formal writing styles, business procedures and the like.
- B) There are many respectable researchers and academics within the intercultural field, who naturally all have different definitions of “intercultural communication”.
- C) The leaders of today’s organizations and businesses need to continually assess their financial budgets and make necessary adjustments.
- D) Demands for intercultural communication skills are increasing as more and more businesses go global or international.
- E) The issue of diversity is now a matter of importance following changes in employment laws.

175. Legal translations are one of the trickiest translations known. A legal translation will always need specialist attention, for law is culture-dependent and requires a translator with an excellent understanding of both the source and target cultures. ---- This is because there is no real margin for error; the mistranslation of a passage in a contract could, for example, have disastrous consequences. Therefore, the target text is to be read by someone who is familiar with another legal system and its language.

- A) Most translation agencies would always use a legal professional to undertake such work.
- B) Technical translations are usually more expensive than general translations as they contain a high amount of terminology.
- C) Some go as far as to say that legal translations are not really possible.
- D) Due to the continuing evolution of the translation industry, there are now certain terms used to define specialist translations.
- E) A common misconception is that anyone who can speak a second language will make a good translator of legal texts.

176. From its humble origins in Africa, coffee has become the second most heavily traded commodity in the world. It is planted in more than 10 million hectares spread over fifty countries, where more than 100 million people depend on it for their livelihoods. Even though there are more than 100 species of coffee, only coffea arabica and coffea canephora are commercially traded. ----

- A) The coffee plant can grow to a tree that is as much as 5 metres tall.
- B) It is commonly held that coffee from various regions has distinctive flavours.
- C) Coffee production is an ancient industry with an enormous amount of scientific research behind it.
- D) Yet, within these two species, there are numerous kinds that are said to provide different flavours and qualities.
- E) Coffee gives many people some much-needed stimulation to get going every morning.

177. Columbus' arrival in the New World in 1492 was a disaster for the natives. ---- With no resistance to new germs, tribes rapidly were exposed to unfamiliar illnesses after their first brief contact with Europeans. In many cases, the number of the natives was vastly reduced without anyone even firing a shot. Where the tribes developed a closer relationship with the new arrivals, they were frequently tricked, tormented, and massacred by their visitors.

- A) Known as Indians, they were good at mixing herbs to make natural medicines.
- B) They were most adversely affected by the Europeans.
- C) The Indian tribes became prominent in the story of North America as the Europeans spread westwards.
- D) They had natural immunity against most of the diseases.
- E) The colonists, consisting mainly of soldiers and traders, established an easy relationship with Indian tribes.

178. One great achievement of Greek literature is Herodotus' writing of history. No one before him had consciously attempted to write about the past. ---- The saga which inspired him to undertake anything so new and so difficult was the one which had overshadowed his own childhood and youth – the clash between the Greeks and the Persians.

- A) This is the reason why he is rightly known as "the father of history".
- B) That is why the earliest Greek philosophers were concerned chiefly with what we would call "science".
- C) For this reason, Herodotus himself reported dubious information if it was interesting, sometimes adding his own opinion about its reliability.
- D) As a result, he became a major source of inspiration for poets and story-tellers.
- E) Because of this, he wrote his Histories in the Ionian dialect.

179. Recent studies have revealed that heart disease had plagued man long before fried hamburgers and cigarettes came along. For instance, the upper classes of ancient Egypt were riddled with cardiovascular disease that dramatically raised their risk of heart attacks and strokes. Doctors made the discovery after taking hospital X-ray scans of 20 Egyptian mummies that date back more than 3,500 years. ---- In some of the individuals, up to six different arteries were affected.

- A) Atherosclerosis is widespread today and, despite the differences between ancient and modern life styles, it seems to have also been common among ancient Egyptians.
- B) It was impossible to determine what kind of diet the Egyptians had, but it is known that beef, duck, and goose were often on the menu at this time.
- C) The medical team, whose findings were published in a leading American medical journal, analyzed bones in the mummies to work out their ages when they had died.
- D) It was unclear whether atherosclerosis had caused the demise of any of the mummies in the study.
- E) The scans revealed signs of atherosclerosis, a life-threatening condition where fat and calcium build up in the arteries, clogging them and stiffening their walls.

180. A Belgian doctor, who gave a man a new life after he was wrongly believed to be in a coma for 23 years, has begun to re-examine dozens of other cases. He reports that he has discovered some degree of consciousness in other patients but will not say how many. ---- "It is unbelievably difficult to tell the difference," he says.

- A) Not wanting to believe the Belgian doctors, the coma patient's mother had taken him on five separate trips to the US for neurological testing.
- B) In the case of the coma patient, the man was put through a PET scan, which revealed his fully conscious mental state.
- C) Long before his intervention in the case three years ago, his patient had been declared by other doctors to be in a vegetative state following a car crash.
- D) He sees around 50 cases a year, most of which focus on identifying the fine distinction between a vegetative state and minimal consciousness.
- E) Since what he describes as his "rebirth" three years ago, the coma patient has been able to visit his father's grave to witness the planting of a tree.

181. ---- They treated the oesophageal cancer cells with curcumin – a chemical found in the spice turmeric, which gives curries a distinctive yellow colour – and found it started to kill them within 24 hours. The cells also began to digest themselves. Previous studies had suggested that curcumin could suppress tumours, although it lost its anticancer attributes quickly when ingested. However, the Irish study suggests a potential for scientists to develop curcumin as an anti-cancer drug to treat oesophageal cancer in particular.

- A) No relationship has been scientifically established between the eating of curries and the development of oesophageal tumours.
- B) American researchers had said in 2007 that eating curries might help stimulate immunessystem cells in patients with Alzheimer's disease.
- C) Cancerous tumours of the oesophagus are especially deadly, with five-year survival rates of just 12% to 31% being reported.
- D) Curcumin has been shown to cause oesophageal cancer cells to die by using an unexpected system of cell messages.
- E) Researchers at a cancer centre in Ireland have discovered that a molecule found in a curry ingredient can kill oesophageal cancer cells.

182. The Bill and Melinda Gates Foundation has a special programme that provides motivation money for the development of ideas to improve the health of those living in poor countries. ---- There were 76 winners of \$100,000 each in the third round, announced in October, 2009. The inventions ranged from a type of chewing gum that can detect signs of malaria in a person's saliva to remote diagnosis of pneumonia through mobile-phone microphones that record people's coughs.

- A) The programme, which has five rounds and is known as "The Grand Challenges Explorations", is open to researchers from around the world.
- B) Since its inception, the Foundation has primarily focused on the improvement of hospitals and health services in African countries.
- C) Scientists specializing in health issues often form research partnerships with university hospitals.
- D) One winner in a previous round has been awarded a further \$1 million to enable him to continue working on his proposal.
- E) In fact, the Foundation does not release details of the area reports prepared by the researchers working in Africa.

183. When it comes to teenage births, the US is backsliding. ---- Between 2005 and 2007, however, it crept up 5%. While the rate is still well below its early-1960s bubble, experts are getting worried about the trend line.

- A) In the state of Texas, for example, the government requires only that public schools emphasize sexual abstinence.
- B) In 1960, before the advent of oral contraceptives, the rate in America was more than double what it is today.
- C) Between 1991 and 2005, the teenage birth rate declined by 34%, according to the National Centre of Health Statistics.
- D) The state of Texas now has the third-highest rate of teenage births, after Mississippi and New Mexico.
- E) In terms of repeat pregnancies of teenage girls, the city of Dallas has the highest rate in the entire country: 28%.

184. One of the causes of World War II was the failure to create lasting, binding standards for peace and security in Europe in particular and in the world at large. Diplomats spent the 1920s, trying to restore such standards. Some put their faith in the legal and moral authority of the League of Nations. ---- Throughout the decade, a number of leading European statesmen tried to reach a set of agreements that would stabilize the peace and prevent rearmament.

- A) Despite the good faith of many statesmen involved, none of these agreements carried any real weight.
- B) Economic conditions in Europe were another important cause of renewed conflict.
- C) Others saw disarmament as the most promising means of guaranteeing peace.
- D) Politicians feared international relations would be undermined by the growing imbalance of power in Europe.
- E) Moreover, the economic depression of the 1930s contributed in several ways to the coming of the war.

185. Youth culture in America in the 1950s and 1960s owed much to the hybrid musical style known as "rock and roll." During the 1930s and 1940s, the synthesis of music produced by whites and African Americans in the American South found its way into northern cities. Indeed, from the 1950s onwards, black rhythm and blues musicians and white Southern performers found much wider audiences through the use of new technology, such as electric guitars, better equipment for studio recording, and wide-band radio stations in large cities. The blend of styles and sounds and the cultural daring of white teenagers came to create rock and roll. ----

- A) This new music was exciting, sometimes aggressive, but full of energy and with great appeal for young listeners.
- B) Much of the new "mass culture" of the 1960s depended on the spending habits and desires of the new generation.
- C) The postwar desire to break with the past created further impetus for change in every sense, including politics.
- D) In the 1950s, governments rather than markets determined how consumer goods would be distributed.
- E) By the mid-1950s portable radios were being sold in the United States and Europe.

186. ---- Like the French Revolution, they brought down not only a regime, but an empire. Like the French Revolution, they gave way to violence. And again like the French Revolution, they had sweeping international consequences. These revolutions and the fall of the Soviet Union marked the end of the Cold War, which had structured international politics and shaped the everyday lives of millions of people since the end of World War II.

- A) The Iron Curtain had established one of the most rigid borders in European history.
- B) The Eastern European revolutions of 1989 and the subsequent collapse of the Soviet Union were a revolutionary turning point.
- C) The collapse of the Soviet Union opened up both Russia and its former imperial dominions.
- D) In the 1970s and 1980s, the Eastern European nations faced serious financial difficulties.
- E) The Czechs staged demonstrations against Soviet domination towards the end of 1988.

187. Nineteenth-century liberals had confidence in science. Not only did science deliver technological and material progress, but it also confirmed liberals' faith in the power of human reason to uncover and command the laws of nature. --- Evolutionary theory, psychology and social sciences all introduced visions of humanity that were sharply at odds with conventional liberal wisdom. At the same time, artists and intellectuals mounted their own revolt against nineteenth-century conventions. Morals, manners, institutions, and traditions: all established values and assumptions were under question.

- A) Geologists have always challenged the Biblical account of creation.
- B) These upheavals in the world of ideas unsettled older conceptions of individuality.
- C) Towards the end of the century, however, scientific developments defied these expectations.
- D) The scientists of the time held the view that the world had been formed over millions of years.
- E) The implications of Darwin's writings went far beyond the domain of the evolutionary sciences.

188. In ancient Egypt most people were poor, living in crowded conditions in simple mud-brick dwellings. During the period of prosperity, however, skilled artisans, such as jewellers, goldsmiths, and the like, could elevate themselves and enjoy nicer surroundings. --- The vast majority of Egyptians, however, were peasants who, as unskilled labourers, provided the brute force necessary for agriculture and construction. Beneath them were slaves, typically captives from foreign wars rather than native Egyptians.

- A) There can be little doubt that the massive investment of labour and wealth required to build the great pyramids put grave strains on Egyptian society.
- B) The pyramids were in fact raised by tens of thousands of peasant workers, who most probably participated willingly in the building projects.
- C) Governmental control over the lives of individual Egyptians was very strict, and the number of administrative officials employed by the state was quite high.
- D) Potters, weavers, masons, bricklayers, brewers, merchants, and schoolteachers also enjoyed a higher standard of living.
- E) Gender divisions may have been less clearly defined among the peasantry than they were among the elites.

189. In antiquity, Miletus was a centre for speculative thinking and philosophy. Beginning in the sixth century B.C., a series of thinkers known as "the pre-Socratics" raised serious questions about the relationship between the natural world, the gods, and men. The most famous of the pre-Socratics were Thales, Anaximander, and Anaximenes, who represented the so-called Milesian School. They seem to have been remarkably familiar with Babylonian astronomy. --- In other words, through their observations, they began to formulate rational theories to explain the physical universe.

- A) The Milesians were very active in Egypt, where they founded many colonies which became their main trading outposts.
- B) Stimulated by the cosmopolitanism of their city, they also began to rethink their place in the human world.
- C) Calculating and observing the movements of the heavens, they sought physical explanations for what they saw.
- D) After the Persian conquest of Anatolia, many of the Milesian philosophers fled to Sicily and southern Italy.
- E) Miletus had long been a part of the Greek world, but Babylonian influences also shaped Milesian culture in important ways.

190. The cell theory, one of the fundamental unifying concepts of biology, states that all living organisms are composed of basic units called "cells" and of substances produced by cells. Although they vary greatly in size and appearance, all organisms are composed of those small building blocks. Some of the simplest life forms, such as bacteria, are unicellular: they consist of a single cell. --- In these complex multicellular organisms, life processes depend on the coordinated functions of the component cells.

- A) Although plants do not move about in the way we associate with animals, they do move.
- B) One of the remarkable aspects of the growth process is that each part of the organism continues to function as it grows.
- C) Humans and many other organisms begin life as a fertilized egg, which then grows and develops specialized structures and body form.
- D) In contrast, the body of a human or an animal or a tree is made of billions of cells.
- E) Energy is required to maintain the precise order that characterizes living systems.

191. Gregor Mendel was not the first plant breeder. At the time he began his work, hybrid plants and animals had been known for a long time. Mendel's genius lay in his ability to recognize a pattern in the way the parental traits reappear in the offspring of hybrids. ----

- A) It is true that Mendel was a clergyman who bred pea plants in his monastery garden at Brno, Czech Republic.
- B) Therefore, at that time biology was largely a descriptive science, and biologists had little interest in experimental studies.
- C) So it is clear that Mendel's "hereditary factors" are essentially what we call "genes" today, which is one of the major subjects of modern biology.
- D) In fact, geneticists study not only the transmission of genes, but also the expression of genetic information.
- E) No one before him had categorized and counted the offspring and analyzed these regular patterns over several generations.

192. From about 1300 until about the middle of the fifteenth century, disasters struck throughout western Europe with appalling severity and dismaying persistence. ---- Then came the most terrible natural disaster of all: the dreadful plague known as "the Black Death." It reduced the total population of western Europe by at least one half and caused great hardships for most of the survivors.

- A) Europe emerged in the later fifteenth century with a healthier economy.
- B) Of these disasters, famine was the most widespread and persistent.
- C) There was a limit to the amount of land that could be cleared for farming.
- D) Overcrowding made Europe's cities particularly vulnerable to the plague.
- E) Large-scale banking had already emerged during the thirteenth century.

193. In 1915 the German scientist Alfred Wegener, who had noted a similarity between the geographical shapes of South America and Africa, proposed that all the land masses had at one time been joined into one huge supercontinent. He called this supercontinent "Pangea." ---- Wegener did not know of any mechanism that could have caused continental drift. So his idea, although debated initially, was largely ignored.

- A) He further suggested that Pangea had subsequently broken apart and that various land masses had separated in a process known as "continental drift."
- B) Earth's crust is composed of seven large plates, plus a few smaller ones, that float on the mantle which is the solid layer of Earth lying beneath the crust and above the core.
- C) As the plates move, the continents change their relative positions, and this movement of the crustal plates is termed "plate tectonics."
- D) When two plates grind together, one of them is sometimes buried under the other in a process known as "subduction."
- E) As the continents began to drift apart, populations became geographically isolated in different environmental conditions and began to diverge along separate evolutionary pathways.

194. The economic depression of the 1930s forced many writers to re-examine the style and purpose of their work. Among threats of economic devastation, totalitarianism, and war, literature became increasingly politicized. Authors were largely interested in the depiction of injustice and cruelty and felt obliged to point the way to a better society. ----

- A) In his great poem *The Waste Land* the Anglo-American poet T.S. Eliot presented a philosophy that was close to despair.
- B) In his novel *The Sun Also Rises*, Hemingway gave the public a powerful description of the so-called "lost generation".
- C) Moreover, they no longer directed their work to fellow intellectuals alone, but to ordinary men and women as well.
- D) Furthermore, Virginia Woolf's essays and novels offered an eloquent and severe critique of Britain's institutions and universities.
- E) As for Bertolt Brecht, he rebelled against high culture and bourgeois values, but he also protested against the pretentious elitism of his contemporaries.

195. The development of genetic engineering has stemmed from the discovery of DNA in the 1950s. By the 1990s, several laboratories in the West were engaged in the most ambitious medical research ever attempted: the mapping of the human genome, that is, the entire architecture of chromosomes and genes contained in basic human DNA. ---- For instance, infertile couples could now conceive through out-of-body medical procedures.

- A) As a new form of knowledge in an age of global interconnection, genetic engineering has forced many nations to make changes in their laws and regulations concerning medical practices.
- B) In Africa, Latin America, and elsewhere, political chaos, imbalances of trade, and the practices of some pharmaceutical companies have often resulted in shortages of medicine.
- C) As AIDS became a global health crisis in the 1980s, international organizations recognized the need for an early, swift, and comprehensive response to future outbreaks of disease.
- D) Through this process and alongside it, genetic engineers developed methods to alter the biology of living things, including humans.
- E) Moreover, genetically engineered human growth hormone is required by some children to overcome growth deficiencies

196. Energy can be transformed from one form to another. A stone held high in the air has potential energy; as it falls, it loses potential energy, since its height above the ground decreases. At the same time, it gains in kinetic energy, since its velocity is increasing. Potential energy is being transformed into kinetic energy. ---- At the base of the dam, the kinetic energy of the water can be transferred into turbine blades and further transformed into electric energy.

- A) As for potential energy, it is the energy associated with forces that depend on the position or configuration of a body or bodies and the surroundings.
- B) The word "work" has a variety of meanings in everyday language, but in physics, work is given a very specific meaning to describe what is accomplished by the action of a force.
- C) Similarly, water at the top of a dam has potential energy, which is transformed into kinetic energy as the water falls.
- D) Besides the kinetic and potential energy of ordinary objects, there are other forms of energy, which include electric energy, nuclear energy, thermal energy, and chemical energy.
- E) For instance, according to the atomic theory, thermal energy is interpreted as the kinetic energy of rapidly moving molecules.

197. Electronics and communications have been completely transformed by technological advances in materials. A good example is optical fibre cables that have replaced long-distance telephone cables made of copper wire. Optical fibres are fine threads of extremely pure glass. ---- Not only are optical-fibre cables cheaper and less bulky than copper cables carrying the same information, but also by using different colours of light, optical-fibre cables can carry voice, data, and video information at the same time.

- A) In fact, in view of staggering advances in scientific research and technological application, one can say that scientists continue to develop new materials and discover new properties of old ones.
- B) Scientists have demonstrated that they can transform light pulses into electronic computer signals at the rate of 3 billion bits of information a second.
- C) Marconi (1874-1937) invented and developed the wireless telegraph, which could send messages hundreds of kilometres at the speed of light without the use of wires.
- D) Because of their purity, these fibres can transmit laser light pulses for miles compared with only a few inches in ordinary glass.
- E) Moreover, chemists could correlate molecular structure with the characteristics of materials and so begin to fashion materials with special characteristics.

198. One characteristic property of a gas is its compressibility, that is, its ability to be squeezed into a smaller volume by the application of pressure. By comparison, liquids and solids are relatively incompressible. The compressibility of gases was first studied quantitatively by Robert Boyle in 1661. When he poured mercury into the open end of a J-shaped tube, the volume of the enclosed gas decreased. Each addition of mercury increased the pressure on the gas, decreasing its volume. ----

- A) It is true that gases are composed of molecules whose size is negligible compared with the average distance between them.
- B) While studying the composition of air, John Dalton concluded in 1801 that each gas in a mixture of unreactive gases acts as though it were the only gas in the mixture.
- C) According to Newton, the pressure of a gas was due to the mutual repulsions of the gas particles, that is, gas molecules.
- D) The Swiss mathematician and physicist Daniel Bernoulli suggested in 1738 that molecules of gases move faster at higher temperatures.
- E) From such experiments, he formulated the law now known by his name and called "Boyle's law."

199. Sometimes organisms modify their own microclimate. For instance, trees modify the local climate within a forest so that in summer the temperature is usually lower, and the relative humidity greater, than outside the forest. The temperature and humidity beneath the litter of the forest floor differ still more; in the summer this area is considerably cooler and moister than the surrounding forest. ---- The cooler daytime microclimate in their burrows permits them to survive until night, when the surface cools off and they can come out to forage or hunt.

- A) As another example, many desert-dwelling animals burrow to avoid surface climatic conditions that would kill them in minutes.
- B) An area's climate comprises the average weather conditions that occur there over a period of years.
- C) One of the most important climatic factors is temperature, which comprises both average temperature and temperature extremes.
- D) Precipitation is greatest where warm air passes over the ocean, absorbing moisture, and is then cooled, such as when humid air is forced upwards by mountains.
- E) Actually the tropics are hotter and less variable in climate than are temperate and polar areas.

200. Fires were a part of the natural environment long before humans appeared, and many terrestrial ecosystems have adapted to it. African savana, North American grasslands, and pine forests of the southern United States are some of the fire-adapted ecosystems. For example, fire helps maintain grasses as the dominant vegetation in grasslands by removing fire-sensitive hardwood trees. The influence of fire on plants became even more evident once humans appeared. ---- Indeed, humans set fires for many reasons, such as for agricultural exploitation and urban development.

- A) Humans also try to prevent fires, and sometimes this effort can have disastrous consequences.
- B) Because humans deliberately and accidentally set fires, fire became a more common occurrence.
- C) When fire is excluded from a fire-adapted ecosystem, organic litter accumulates.
- D) The deadly fire in Colorado during the summer of 1994 claimed the lives of 14 firefighters.
- E) Controlled burns are used to suppress fire-sensitive trees, thereby maintaining the natural fire-adapted ecosystem.

201. In recent years, spam, that is, advertising material sent by e-mail to people who have not asked for it, has congested the Internet, threatened to overwhelm Internet service providers, and caused sensitive Web surfers to scamper back away from their computers in embarrassment. Spam is now approaching 60 per cent of all email, according to one research firm. It is said that the resulting productivity losses amount to \$9 billion annually. Current approaches aren't working, even though home users and many companies started filtering their e-mails. ---- In addition, most individual lawsuits against spammers have been defeated, settled, or concluded with penalties unpaid.

- A) Filtering and antivirus companies always seem one step behind the rapidly evolving methods of clever spammers.
- B) The best way to solve the problem may be to alter our habits of using the Internet.
- C) Using e-mail filtering tools helps companies and individual users to block spam.
- D) Reports from the front lines of the spam war suggest some promising solutions by charging bulk e-mailers for each mail sent.
- E) The European Union has banned e-mail marketing without prior consent and the US Congress has given its approval to the first federal law regulating spam.

202. In recent years, many countries in Africa have faced severe food shortages as a result of extended drought. The reduced capacity for food production has been catastrophic for a population of over 200 million people, some of whom have died of starvation. ---- In order to rehabilitate these victims, the international community brings in emergency aid, both in the form of food supplies and of technical assistance. However, the drought hazard in Africa is expected to continue, recurring at unpredictable intervals.

- A) It is especially the rural people in Africa who need to be trained efficiently.
- B) As regards the continent's precious top-soil, it is being lost at an incredible rate.
- C) The human population in Africa's arid and semiarid areas has doubled in the past three decades.
- D) Among the survivors, many will suffer impaired health for the rest of their lives.
- E) Unless serious measures are taken, the economic situation could lead to political chaos.

203. Power has a bad name. In a society that cherishes equality and individuality, the notion that some people wield power over others is sometimes looked at with disfavour. Yet many of our societal institutions would operate badly or not at all if there were not at least some execution and distribution of power. Not only large organizations but also small institutions would certainly break down if clear lines of authority did not exist. ---- For instance, power can be used for individual benefit, an inflated sense of self-worth or the devaluation of others.

- A) On the other hand, if abused, power can corrupt the power holder.
- B) The economic power of a country can easily be undermined.
- C) Moreover, most institutions are not governed properly.
- D) Similarly, politicians could not govern without the power given to them by constitutions and legal systems.
- E) Even so, a number of institutions need to be upgraded.

204. Although it may not always be obvious, a great deal of thinking lies behind every advertisement we encounter, whether it be on radio, or television or in the print media. ---- Psychographics, for example, is used to divide people into lifestyle profiles that are related to purchasing patterns. By using psychographics, professional advertisers can analyze consumer's values, needs, attitudes and motivation to purchase particular items.

- A) Advertisements may seem pretty much alike to us as they pass by in a blur.
- B) The tougher the market, the more the advertisers have to be careful about the methods they can use.
- C) Even solid brands that have been available for many years need advertising.
- D) In developing advertising for a product, one must first understand the product itself.
- E) Several techniques are available that can help people resist persuasive messages.

205. Like language, music is a uniquely human activity. Although music is often spoken of as a kind of language, it is certainly not within the same space of possibilities as natural human languages. Music communicates something, perhaps emotional states. It is sometimes symbolic; for instance, when the Wedding March is played to symbolize weddings. ---- Therefore, it seems appropriate to treat music as a form of communication, but not as a language in the technical sense.

- A) That is why composers aim at aesthetic pleasure while they compose their music.
- B) The right hemisphere of the brain is involved in musical perception and in experienced musicians the left hemisphere is also involved.
- C) Yet it shares few of the grammatical and expressive possibilities found in all standard languages.
- D) In the opera, for instance, music and language combine.
- E) This shows that musical ability is largely based on auditory and rhythmic processing.

206. The eye's cornea and retina are critical for vision. If the stem cells around the cornea are destroyed, sight is lost. ---- To replace lost photoreceptors, researchers have tried to implant neural stem cells or retinal stem cells in the retinas of research animals but without much success.

- A) An ophthalmic artery and a retinal artery provide blood to each eye, and an ophthalmic vein and a retinal vein drain blood from it.
- B) Diseases in the eye's cornea and retina have been a major concern for centuries in the medical world.
- C) The eye constantly produces continuous images that are instantly transmitted to the brain.
- D) Yet, even greater problems can occur when retina's light-sensitive cells, the photoreceptors, are destroyed by genetic diseases.
- E) Recent research with mice has shown photoreceptors can be made more efficient.

207. Are identical (monozygotic) twins genetically identical? Mostly, they are. This is because the twins are conceived when the fertilized egg divides into two separate embryos. Therefore, they, start with identical DNA, but over time small differences can develop. ---- This leads to differences that have been linked to autism, lupus and learning disabilities.

- A) Many pregnancies that begin as twin pregnancies sometimes end as single births.
- B) The vast majority of twin pregnancies proceed smoothly and result in healthy babies.
- C) Dizygotic twins don't share an identical set of genes; actually, they are just born at the same time.
- D) In fact, in many countries, roughly one-third of all twins are identical.
- E) For instance, in 2007, researchers at an American medical centre discovered that DNA itself can vary in some monozygotic twins.

208. Researchers divide the symptoms of schizophrenia into two categories. The first comprises hallucinations, paranoia and delusions usually associated with the disease. ---- The other group of symptoms, categorized as "negative", includes loss of motivation, degraded social skills and an inability to feel pleasure.

- A) Dopamine-receptor drugs, generally used in the treatment of schizophrenia, usually have a number of side effects.
- B) These are called "positive symptoms" because the patient is adding something to reality.
- C) New treatments may be on the horizon, thanks to deeper insights into the nature of the disease.
- D) In the 1950s, scientists noted that some drugs had antipsychotic effects when given to schizophrenic patients.
- E) For years, scientists have struggled to untangle the complexities of certain diseases.

209. Anaemia is not a disease but a symptom of any of a number of different disorders. It can be caused by poor diet, blood loss, exposure to industrial poisons, diseases of the bone marrow and any other disorder that upsets the balance between blood production and blood loss. Mild degrees of anaemia often cause nothing more than a lack of energy. ---- This may be accompanied by the pounding of the heart and a rapid pulse and heart action.

- A) Treatment depends on how rapidly blood is lost and how severe the anaemia is.
- B) This type of anaemia disappears when the cause has been found and corrected.
- C) A good basic diet is the best way to combat diet deficiency anaemia.
- D) However, in more severe cases of anaemia, exertion causes shortness of breath.
- E) Many nutrients are needed for red cell production.

210. When you listen to the heartbeat with a stethoscope, you can hear two main heart sounds, "lup-dup", which repeat rhythmically. The first heart sound, "lup", is low-pitched, not very loud, and fairly long-lasting. It is caused mainly by the closing of the AV valves and marks the beginning of ventricular systole. ---- This "dup" sound marks the closing of the semilunar valves and the beginning of ventricular diastole.

- A) The portion of the cycle in which contradiction occurs is known as systole.
- B) A heart murmur may be caused by any condition that prevents valves from closing tightly.
- C) The quality of these sounds tells a physician much about the state of the valves.
- D) One complete heartbeat takes about 0.8 second and is referred to as a cardiac cycle.
- E) This sound is quickly followed by higher-pitched, louder, sharper, and shorter "dup" sound.

211. Tornadoes are very dangerous whirlwinds that can cause terrible damage when they strike. They often occur in the mid-western states of America on hot humid days where warm, moist air is blowing from different directions. A tornado begins as a funnel-shaped cloud, which stretches down from the base of a huge thundercloud and rotates violently. ---- Powerful tornadoes have been known to lift cars, destroy buildings and overturn trains.

- A) As clouds vary in size and shape, cirrus and cirro-type clouds occur at altitudes above 7.500 metres.
- B) One of the safest places to be in a thunderstorm is a car.
- C) Tornadoes can vary in size from just a few metres to 500 metres across.
- D) When a huge thundercloud is observed, people often panic and leave their homes.
- E) Actually, lightning begins as a small spark in a thundercloud and then towards the Earth.

212. Hydroelectric power plants use falling water to turn the turbines of generators. Therefore, no heat engine is needed. They are usually located at the base of a dam. They produce practically no air pollution or noticeable water pollution of any kind. ---- However, they may not always be reliable because of shortage of rainfall, and there are not many good locations remaining in which to build dams.

- A) The fission process is used in all present nuclear power plants, since fusion has not yet been controlled.
- B) Most of the electricity produced in the United States at the present time makes use of a heat engine coupled with an electric generator.
- C) Most electricity-producing power plants today use a heat engine to transform thermal energy into electricity.
- D) Nonetheless, geothermal is a reasonably inexpensive means of electricity production and holds considerable promise.
- E) Furthermore, they are nearly one hundred per cent efficient, since very little waste heat is produced.

213. One of the strongest earthquakes ever recorded ripped through central Chile on February 27, tearing up roads and bridges, reducing buildings and homes including hospitals to dust. ---- Describing it as a "catastrophe of unthinkable magnitude", Chile's president Michelle Bachelet promised to explore whether his countries tsunami-warning system had failed.

- A) The government deployed troops to combat crime, to search for survivors and to restore order.
- B) Residents on the country's shoreline survived the quake only to drown shortly afterwards when a tsunami sucked houses in the sea.
- C) Chile is a country that is rich enough to ensure that buildings are constructed to withstand even the biggest quake.
- D) When the earthquake struck Chile, many of its engineers and construction experts were blamed for the destruction.
- E) Although earthquakes can do terrible harm, there is the capacity to neutralize them.

214. One of the most surprising findings in the field of taste research was published in a well-respected scientific journal last week. It seems that some prominent researchers have recently come up with a ground-braking discovery. According to these researchers, artistic preferences have a strong genetic component. A study of 3,000 twins, for instance, revealed that whether we enjoy listening to jazz or not is partially heritable. ----

- A) Other artistic tastes may, of course, also be influenced by genetics.
- B) Indeed, everyone around the world likes jazz.
- C) In fact, artistic tastes are decided by one's cognitive ability.
- D) Less intelligent people may be less musical.
- E) As a result, taste provides a common reference point.

215.For all the predictable battles over state of climate science, the truth is that our planet still has the potential to surprise us. On February 26, a team of French and Australian scientists reported news of a huge iceberg's collision with the Mertz Glacier on the eastern coast of Antarctica. ---- Owing in part to warming global temperatures, Antarctica is losing ice all the time – about 24 cu. mi . (100 cu. km.) worth each year, which is clearly alarming.

- A) There are some extraordinary events unfolding all over Antarctica.
- B) Scientists report that ice loss should be happening on the western edge of the continent.
- C) This is a catastrophe that is slowly but steadily raising global sea levels.
- D) A chunk of sea ice approximately the size of Luxembourg had broken free.
- E) While the global-warming wars between scientists continue, the public has to act.

216.At the beginning of every term, Harvard students are able to enjoy a one-week “shopping period”. ---- There is a spirited quality to this stretch, a sense of intellectual possibility as students pop in and out of lecture halls, grabbing syllabi and listening for twenty minutes or so before rushing away to other classes. It's quite an amazing event and the atmosphere is truly stimulating.

- A) As soon as the “shopping period” ends, the fun of learning begins.
- B) They can sample as many courses as they like and thus prepare the most appropriate schedule.
- C) It is an exceptionally good setting for an act of political theatre.
- D) During this period they take notes in lectures for exams.
- E) It may be hard to get into Harvard, but it is easy to get out without learning much.

217.---- Colonialism, the harsh environment and the impact of the Cold War have all been cited. But these fail to adequately explain why other developing regions have made far more progress when they have had to deal with many of the same problems. So, what is it about that particular region's inability to move forward?

- A) Colonialism was the inevitable consequence of the Cold War politics, which at the time determined the fate of many nations.
- B) Many foreign companies had a false picture of this African region and so did not realize the opportunities.
- C) Many explanations have been given for sub-Saharan Africa's failure as a region to take off economically.
- D) The lack of basic infrastructure in many African countries is widely credited with being the biggest single factor inhibiting development.
- E) The cause of this failure is a lack of finance, expertise, enthusiasm and government support in the region.

218.Museums in England used to receive a grant from the government that covered the cost of running the museum. However, these grants have been abolished or reduced. They now charge for admission and need to attract large numbers of visitors. In order to persuade people that it is worth paying for a quite expensive admission ticket, museums have tried to make their exhibitions brighter and more appealing. ----

- A) Museums generally seek commercial sponsorship to increase their income, which keeps falling.
- B) In recent years, there have been many changes in the way museums present their exhibits to the public.
- C) One of the biggest changes to take place in recent years is that large numbers of teachers are employed by the museums.
- D) Many museums now have “interactive exhibits”, which means that you can, in fact touch the exhibits.
- E) There are large gift shops around selling books and reproductions, which are often more crowded than the museum itself.

219.High levels of illiteracy among women in different societies can generally be attributed to variety of factors. In India, for example, high levels of illiteracy are common among girls and young women. ---- This accounts for the high drop-out rates from schools across the country. While this is one of the factors, others can be seen in relation to the cultural reinforcement of patriarchal practices.

- A) This is the reason why the Indian section of the population are either plantation workers, owners or professionals.
- B) However, the whole terrain of literacy and education has been altered in a very fundamental way.
- C) Women constitute the largest single category of persons denied full and equal opportunities for education.
- D) There are also wide variations of literacy levels between regions and sub-regions across India.
- E) This is because they often shoulder the burden of raising their families and maintaining the household.

220.The main linguistic influence on English was Norman French, the language introduced to Britain after the Norman Conquest. Following King William of Normandy's accession, French was rapidly established in the corridors of power. ---- Some English people learned French, so they could gain some advantage from the new aristocracy, and baronial staff learned English to deal with the local people. However, there was not much use of English by the ruling kings.

- A) English became more widely used among the upper classes, through intermarriage.
- B) Inevitably, the use of both languages flourished among those who crossed the social divide.
- C) Most of the Anglo-Norman kings were unable to communicate at all in English.
- D) Many French merchants took advantage of the commercial opportunities provided by the new regime.
- E) Nevertheless, the number of Normans may have been as low as 2 per cent of the population.

221.Antidepressants are becoming quite popular around the world. Americans take more antidepressants than they do any other type of prescription drug, and pregnant women are no exception. One out of every eight pregnant women in the United States takes antidepressants to treat depression and other mood disorders. ---- Nevertheless, most doctors argue that the benefits these drugs provide still outweigh the potential risks.

- A) A group of Danish doctors found that women who take antidepressants are more likely to give normal births.
- B) According to some clinical pharmacologists, untreated depression increases the risk of prematurity.
- C) Doctors have to distinguish between real depression and just sadness and feeling down.
- D) Many women who take antidepressants have not been diagnosed with clinical depression.
- E) A handful of recent studies suggest that these drugs could have adverse effects on infant health.

222.The importance of diet in cancer prevention is pointed out in many reports. Soya is an important component of a diet to prevent breast cancer. Cancer components in soya, the isoflavones, may affect the hormone receptors in a way that prevents cancer. ---- It has long been recognized, for example, that Japanese women have a very low breast cancer risk.

- A) Soya can be consumed as soya milk, soya sauce, or processed into textured vegetable protein.
- B) Isoflavones act through these receptors.
- C) There is much lower breast cancer rate in those cultures eating a diet high in soya protein.
- D) Our diet should be full of whole grains, fruit and vegetables.
- E) Soya bean, originally grown as a food crop for animals, is increasingly used for human consumption.

223. The body's tendency to reject organ transplant, attacking them as if they were dangerous foreign invaders, is a well-known process. However, more prevalent are auto immune diseases, in which the body's immune cells attack its own tissues. Auto immune diseases can effect a variety of organs. ---- According to statistics, conditions like these affect more than 50 million people in the United States.

- A) A healthy person's immune system is able to draw a clear line between the body's own tissues and the invaders.
- B) These malfunctions can result in one of more than 80 known conditions including lupus, multiple sclerosis and inflammatory bowel disease.
- C) The perfect immune-modulating drug would target only the part of the system causing the problem.
- D) The ability to reprogram the immune system is one of the most sought-after goals in medicine.
- E) Immune researchers have been working on a biological defence system that's comparable to the world's greatest military.

224. It is estimated that skin cancers could soon be detected by sampling a thin layer of air just above the body's surface. A research team in Philadelphia have used gas chromatography-mass spectrometry to give a detailed chemical profile of the air immediately over the skin of a group of volunteers. ---- The analysis showed clear differences in the amounts of certain chemicals between the groups. It is exciting that these are biomarkers related to skin cancer.

- A) Skin cancer is often hard to detect until later stages.
- B) This method could be an important screening tool in the fight against cancer.
- C) Researchers are now planning to find the chemical signatures of more dangerous cancers.
- D) Half had the common basal skin carcinoma, the other half were healthy.
- E) Basal skin carcinoma is one of the most common forms of skin cancer.

225. Numerous self-help books imply that stress increases the risk of breast cancer. Most women who have survived the breast cancer seem to agree. According to surveys, 40 to 65 per cent of survivors believe their cancers were caused by stress. ---- In fact, in several investigations, researchers observed a lower risk of breast cancer among women who experienced relatively high stress in their jobs, compared with women who experienced relatively low job stress.

- A) But most studies find no connection between cancer risk and the stress experienced.
- B) People with cancer can relieve their physical and emotional burdens by seeking quality medical and psychological care.
- C) Early studies seemed to suggest that participating in support groups helps to prolong life.
- D) More recent and scientifically solid research showed that psychological interventions can enhance cancer patients' quality of life.
- E) Patients can take comfort in connecting with their friends and families

226. The environment, whether it is natural or artificial, is the most fundamental ingredient of the tourism product. However, as soon as tourism activity takes place, the environment is inevitably changed or modified, either to facilitate tourism or through the tourism production process. ---- Such considerations are treated with much greater respect than they were during the first two-thirds of the last century. Relatively little research has been undertaken within a standardized framework to analyze tourism's impact on the environment.

- A) Therefore, the Great Wall of China, and the Taj Mahal have been preserved in such a way that tourism cannot do any harm to them.
- B) Environmental preservation and improvement programmes are now an integral part of many development strategies.
- C) So, it may be questionable as to whether it is wise to spare large amounts of funds on tourism.
- D) Tourism is responsible for high levels of air and noise pollution through the transportation networks and leisure activities.
- E) The problems associated with littering present significant danger to wildlife as well as being unsightly and expensive to clear.

227.---- We can hardly avoid commercial advertising designed to influence us. Interestingly, most people consider that they are less likely to be influenced than others by advertisements. This has been called “the third person effect”. For example, if we see an ordinary product being advertised buy using attractive models in an unusual setting, we suppose that we (and those like us) are wiser than others to the tricks of the advertising industry. In reality, we are just as susceptible.

- A) Advertising can easily change the market conditions.
- B) We cannot keep away from the influences of our friends.
- C) People are not oblivious to the persuasion attempts of advertising.
- D) Education programmes help young people avoid such tricky commercials.
- E) It is generally accepted that people like attractive products.

228.Aboriginal occupation of Australia goes back at least 40,000 years and probably longer. While there are significant differences in aboriginal occupation of space and the meaning they attach to the environment, there are also some common threads. Traditional aboriginal culture is very interesting in that it invests very little meaning in architecture or artificial spatial structures. ---- There is a bond between one’s “country” and its sacred places which house the spirit of certain species for which one has responsibilities.

- A) Australia was invaded by Britain, initially as a means of banishing what was perceived to be a genetically criminal class.
- B) The majority of the aboriginal paintings that are currently popular on the world at market are landscapes.
- C) Nevertheless, most of the land to which aboriginal people still spiritually belong, legally belongs to someone else.
- D) Aboriginal culture and identity is, however, profoundly rooted in landscape form and natural structures.
- E) However, Ayer’s Rock, this enormous and beautiful rock, has become the dominant geographical symbol of Australia.

229.More than 80 renowned German scientists and artists took refuge in Turkey from the Nazi persecution in the 1930s and 1940s. ---- Among them were the Berlin Opera director Carl Ebert, the composer Paul Hindemith, philosophers and orientalist such as Ernst Von Aster and Helmut Ritter. Close ties developed amongst various universities in the two countries as a result and these persist today. The German Academic Exchange Service awards various scholarships in Turkey. Professors and students teach and study in both countries.

- A) Germany had always produced scientists who were renowned for their pioneering discoveries.
- B) These were the worst years for those people who suffered immensely under the Nazi regime.
- C) They worked in and also helped to develop and establish Turkish universities.
- D) Turkey was a country that accepted people from Germany during the Nazi persecution.
- E) Many of them visited Istanbul because of its rich history.

230.Mining is a hazardous occupation, and the safety of mine workers is an important aspect of the industry. Statistics indicate that surface mining is less hazardous than underground mining and that metal mining is less hazardous than coal mining. ---- In all underground mines, rock and roof falls, flooding, and inadequate ventilation are the greatest hazards. Large explosions are characteristic in coal mines, but more miners suffer accidents from the use of explosives in metal mines.

- A) Miners are also prone to debilitating illnesses that are a result of the conditions in many of the mines.
- B) Mining operations are considered one of the main sources of environmental degradation.
- C) A study of the frequency and severity of accidents shows that the hazards stem from the nature of the operation.
- D) Workers in metal mines can also be badly affected by the fumes that come from the dynamite explosions.
- E) The gradual extraction of the ore and the resulting fracturing of the rock around the mine workings cause subsidence at the surface.

231.The green leaves of a plant produce nutrients using photosynthesis, a process that occurs in chloroplasts located within the leaf cells. Water and the sugar produced by photosynthesis are distributed through the vascular bundles to nourish cells. The vascular bundles can often be clearly seen as the veins on the underside of a leaf. The leaves draw carbon dioxide from the air through slit-shaped openings called stomata. These are usually found on the undersides of leaves. ----

- A) The stem is an integral part of the plant and supports the leaves, flowers and fruit, as well as transporting water and nutrients.
- B) Typically, stomata open in the daytime to release excess water and the oxygen produced during photosynthesis.
- C) The basic components of a seed plant are the roots, leaves, stems or shoots, and at certain times of the year, flowers and fruit.
- D) Green plants are an essential part of any garden and provide shelter for numerous insects.
- E) However, in an individual plant cell, there are hundreds of lens-shaped sub-cellular organelles.

232.The planet on which we live is, to a large extent, a closed system, one that exchanges energy but not matter with its environment. If humankind is to thrive in the future, all the processes we carry out should be in balance with Earth's natural processes and physical resources. This goal requires that no toxic materials are released to environment, that our needs are met with renewable resources. ---- Chemistry is therefore at the heart of efforts to design products that are compatible with human health and renewing the raw materials essential for chemical processes.

- A) Chemical processes are involved in nearly all aspects of modern life and important in achieving this goal.
- B) However, in the upper reaches of the atmosphere, only the simplest chemical species can survive the bombardment of radiation from the Sun.
- C) Thus, scientists have long been attempting to understand why rainwater is acidic, even in the absence of polluting gases such as methane.
- D) In other words, energy is neither created nor destroyed in any processes, whether it is the falling of a brick or the melting of an ice cube.
- E) Furthermore, a chemical reaction is spontaneous if it occurs on its own accord, regardless of its potential speed.

233.The demand for energy sources that are compact, lightweight and powerful has significantly increased in recent years. ---- This gap is expected to widen in the future as electronic devices need more power to support enhanced functions. Hydrocarbon fuels have energy densities much greater than the best batteries. Therefore, taking advantage of the high energy density of chemical fuels to generate power becomes an attractive technological alternative to batteries.

- A) Scientists are beginning to adopt innovative approaches to convert available energy into chemical fuels.
- B) Currently, batteries are the dominant power sources for portable electronics.
- C) This generally results from the excessive use of hydrocarbon fuels.
- D) Traditional chemical batteries are unable to meet the demand for high energy intensity.
- E) Power systems employing hydrogen or hydrocarbon fuels offer much higher energy density.

234.Citrus is an evergreen plant that requires water all year around and there are times when avoidance of water stress is critical. On the other hand, at other times, stress can trigger physiological responses that allow the plant to cope satisfactorily with reduced water availability. ---- It is the existence of these mechanisms that allows the use of modified irrigation scheduling techniques to manipulate the soil water environment to potentially maximize biological activity and also improve water use efficiency.

- A) In citriculture, fruit yield and quality outcomes may not be tightly related to levels of available water.
- B) The link between water stress and small fruit size means that it is necessary to find a different approach to irrigating to improve the quality of fruit.
- C) There are such pressures as the cost of water and reduced water availability on irrigators to improve the water use efficiency of water crops.
- D) It is important that water should be supplied with sufficient frequency to meet the water needs of the whole plant.
- E) These take their cues from environmental variables like humidity, temperature and, most importantly, soil water availability.

235.At the time of their arrival in Europe, the Huns did not acknowledge a single ruler but had several power-sharing kings who operated within a ranking system, with one of their number recognized as senior king. To avoid overgrazing, the Huns needed to be dispersed over a wide area and this led to the formation of a developed power structure. In the 5th century, they began to abandon nomadic pastoralism and settle in villages. ---- This made possible a process of political centralization that led to Ruga becoming sole king of the Huns in 432.

- A) Loyalty wasn't always the first trait that a king looked for in his followers at that time.
- B) Kings ruled with the support of a chosen elite class, but the Huns were still deprived of formal institutions of government.
- C) The exact bounds of their conquests are not known and little is certain about the first movements of the kings.
- D) They became wealthy from raiding, collecting tribute from subject people and wages for mercenary service with the Roman armies.
- E) The Huns were horse archers, so they rarely wore armour and relied on speed and manoeuvrability for protection.

236.---- However, most of the African art known today is relatively recent; from the 19th century or later. Very little earlier, African art has survived, primarily because it was made largely of perishable materials such as wood, cloth, and plant fibres, and because it typically met with intensive use in ceremonies and in daily life. Scholars of African art base suppositions about earlier art mainly on the art of the last two centuries. But they can only guess at the earlier traditions from which the recent art developed.

- A) Today, African art does not constitute a single tradition.
- B) Many surviving examples of African art date from the 14th to the 17th century.
- C) Each African culture produces its own distinctive art and architecture.
- D) African cultures design many utilitarian objects with decorative schemes in mind.
- E) The earliest known African sculptures are sculpted clay heads and human figures.

237.Conflict is a struggle between opposing sides or forces. In a play, the characters act out the conflict, and ultimately their actions result in a resolution, or outcome. External conflict is a struggle between a character and an outside force, such as another person, nature, or fate. ---- A character can express internal conflict as well as external conflict through actions, facial expressions, and dialogue.

- A) Thus, external or internal, conflicts arouse interest among viewers.
- B) Also, plays often point to cues as to when an internal conflict is likely to occur.
- C) Likewise, dialogues contain a variety of both internal and external conflicts.
- D) Furthermore, a character's conflict is often obvious from his or her facial expressions.
- E) However, internal conflict is a struggle within the character's own mind.

238.Musical notes are assigned different pitches, and are put together to form melodies. These may contain phrases, which can be thought of as musical sentences. Often, each phrase contains as many notes as can be sung comfortably in a single breath. ---- The flavour of melodies and harmonies often results from the types of scales – or collections of notes – that are used.

- A) The simultaneous sounding of a number of different notes creates harmony.
- B) The basic materials of music are pitch and rhythm.
- C) Rhythm, at its most basic, is the beat of a piece of music and the metre.
- D) Harmony can be regarded as the resolution of tension.
- E) As a general rule, the longer the string or column of air, the lower the pitch.

239. Each culture has some understanding of the adult competencies needed for adequate functioning. For example, children who need a formal education to succeed in their culture are likely to be exposed to these values early in childhood. Thus, they may receive books and instruction at a young age. Children in another culture may have to do spinning and weaving as part of their adult livelihood. ----

- A) We are all truly integrated in our own societies and cultures.
- B) But these children must learn the rules and patterns of behaviour.
- C) These children are likely to receive early exposure to these crafts.
- D) These learned patterns and rules influence much of our behaviour.
- E) It is this pattern of thought that guides them to becoming academics.

240. Folic acid was something your mother never thought about when she was expecting you. ---- The change came in 1991, when a British medical study demonstrated that folic acid, a nutrient in the B vitamin family, reduced the recurrence of birth defects of the brain and spinal cord. This reduction occurred in cases where a mother's previous child was affected by as much as 80%. Later studies have shown that even among women who have never had children with brain or spinal cord defects, those who consume enough folic acid can lower their baby's risk of spinal, brain and skull defects by 50% to 70%.

- A) But today, folic acid has become a nutritional requirement for all pregnant women.
- B) Hence, the Food Standards Agency will be promoting the benefits of folic acid in the diet.
- C) When pregnant, she might have been advised to consume 0.4 milligrams of folate every day.
- D) Foods that were fortified with folic acid were marked with a blue folic acid flash at that time.
- E) Not every practitioner knows that some foods are naturally rich in folic acid.

241. Infertility is a problem that is affecting more couples than ever before, as people wait longer and longer to have children. One in ten couples older than 30 has trouble conceiving. After age 35, the ratio is one in five. ---- Some women reportedly get pregnant even in their 50s. But face it: Spontaneous pregnancy in a woman's late 40s and 50s is rare.

- A) Also, some had many serious miscarriages.
- B) Reproductive technologies will become more sophisticated.
- C) Of course, age isn't a problem for everyone.
- D) The number of women that have abortion is increasing day by day.
- E) In fact, many women follow a similar pattern.

242. The age at which puberty starts is something that many children worry about. The onset of puberty varies from child to child and is influenced by a number of factors, including heredity, but it generally begins between the ages of eight and thirteen in a girl, and between ten and fifteen in a boy. One of the factors that influences the onset of puberty is nutrition. ---- Thus, the average age when puberty started went down by well over a year. In today's developed world, malnutrition is rare and as a result, over the last 50 years or so, there seems to be a continuing trend toward an even lower average age of puberty.

- A) There has probably been a reduction of 6 months or so in the average age of puberty in the last few decades.
- B) Puberty is a time of enormous change, both physical and emotional.
- C) In some countries, the changes have become less marked according to the reports by the WHO.
- D) Nutrition improved in the developed world between the late 19th century and the mid-20th century.
- E) Puberty is considered to be premature if it starts before the age of eight.

243. It is actually very difficult to distinguish experimentally between an animal that is simply using landmarks and one that is using a cognitive map. The best evidence for a cognitive map comes from research on the family of birds that includes jays, crows, and nutcrackers. Many of these birds store food in caches. A single bird may store nuts in thousands of caches that may be widely dispersed. The bird not only relocates each cache, but also keeps track of food quality, avoiding caches in which the food was relatively perishable and would have decayed. ----

- A) Thus, some animals appear to migrate using only innate responses to environmental cues.
- B) It would seem that these birds use cognitive maps to memorize the location of their food stores.
- C) In addition, honeybees might learn ten or so landmarks and locate their hive and flowers in relation to those features.
- D) Studies of other animals show the interaction of genes and experience in migration.
- E) Research also indicates that the indigo bunting avoids the need for a timing mechanism by fixing on the North Star.

244. Gum disease, also known as periodontal disease, is one of the most common oral diseases. It occurs when bacteria in the plaque that causes tooth decay attacks the gum tissue around a tooth. Periodontal disease usually starts as gingivitis, a mild form of gum disease that causes the gum tissue to become red, swollen, and bleed easily. ---- If not treated, gingivitis can progress to periodontitis, a more serious condition of the gums that occurs when bacteria attack the bone and tissue supporting the teeth.

- A) In such a case, dentists perform root canal therapy on teeth in which the pulp has decayed and must be removed.
- B) The harmful bacteria are removed by pulling back the gum tissue and using specialized scraping tools.
- C) In this case, false teeth known as dentures must be fabricated to enable people to chew and eat.
- D) Periodontists specialize in problems associated with gums and the bone that supports the gums.
- E) In its early stages, gingivitis can be eliminated by brushing and flossing daily to remove plaque.

245. Efforts to identify a single personality profile of the "helpful person" have not been very successful. Rather, it appears that particular personality traits and abilities dispose people to help in specific types of situations. For instance, a study revealed that adults with a high need for approval were more likely to donate money to charity than those individuals who were low in need for social approval, but only when other people were watching them. ----

- A) In contrast, empathy means feelings of sympathy and caring for others, in particular, sharing vicariously or indirectly in the suffering of others.
- B) As expected, the people in the high-empathy condition experienced significantly greater empathy, as reflected in self-ratings of sympathetic and compassionate feelings.
- C) Presumably, this shows that people high in a need for approval are motivated by a desire to win praise from others and so act in a helpful manner only when their good deeds are likely to be noticed.
- D) Further insights into personality and helpfulness come from studies of individuals who regularly donate their services for the sake of being more helpful.
- E) Finally, women are more likely than men to be the primary caregivers for the family, thus making them appear to be more helpful and empathetic.

246. Lance Armstrong had already made one huge comeback: Diagnosed with testicular cancer in 1996, he was given less than a 50% chance of survival. Not only did he make it through, but he got back on his bike, picked up his cycling career and proceeded to win seven Tour de France titles in a row, from 1999 to 2005. ---- But what Armstrong did need was the support of his Astana teammates forced to choose between the veteran Armstrong and a young rival, Spanish star Alberto Contador.

- A) He needed to stop both smoking and drinking if he wanted to get back to his days of glory.
- B) An ugly duel emerged and matters got worse after an opponent went ahead of Armstrong in the Alps and went on to win the race.
- C) Europe is the centre of a wide range of sports such as tennis, volleyball and basketball and competition is fierce there.
- D) Cycling, however, is more commonly practised as a hobby rather than a professional sport throughout the world.
- E) In Europe, claims of drug use had followed the American and he was out to prove that he didn't need drugs for these series of successes.

247. It is difficult to relate skin colour directly to genetic inheritance. Dennis Barber, a white bank manager from Staffordshire, recently discovered that he is the direct descendant of a black African slave who was brought to England in the 18th century. ---- It has been estimated that one in five white British people has a direct black ancestor and that they could presumably pass on their genes to the next generation as well.

- A) Despite his white appearance, Dennis carries genes that could result in his own descendants being born with dark features.
- B) However, Dennis' father decided to settle down in Europe and marry an English woman.
- C) In fact, slavery is the primary reason why there is no agreement about whether genes play a role in one's skin colour.
- D) It is only natural that Dennis had white skin, since there is no evidence in science linking genetics and skin colour.
- E) Biologists can account for the differences between the English and the Africans that they enslaved.

248. Countries engage in international trade because they benefit from doing so. ---- Thus, trade plays a vital role in achieving such an essential task since it frees each country's residents from having to consume goods in the same combination in which the domestic economy can produce them. If the US specialized its production but did not engage in international trade, US residents would have large quantities of wheat and soybeans but no coffee or bananas.

- A) Any country that attempted to achieve selfsufficiency by producing everything consumed would face a difficult task.
- B) We can easily see the benefits from trade along with productive specialization at the individual level.
- C) The gains from trade arise because it allows countries to specialize their production by allocating resources to their most productive uses.
- D) The fact that political boundaries divide the world into nation-states does not alter trade's potential for expanding output.
- E) In market-oriented economies, existing firms make most consumption decisions besides controlling production patterns.

249.---- Even Immanuel Kant singled out smell as the sense that was "most dispensable" because "the pleasure coming from the sense of smell cannot be other than temporary." However, scents can be a significant source of information and over evolutionary time, the human nose has developed to identify numerous scents vital to survival. The importance of smell has recently been recognized, and over the past few decades, researchers and engineers have created increasingly sophisticated electronic systems to detect and identify numerous odours to augment the biological restrictions of the human nose.

- A) For many human beings, a good sense of smell might not seem to be a desirable trait like sharp eyesight or hearing.
- B) Olfactory receptors that bind odorants and initiate nerve signalling, at first glance, appear to respond in a very nonspecific way.
- C) Advances in artificial nose design have increased the number of different mechanisms since 1982.
- D) The sense of smell has long been considered to be more important than the other senses.
- E) There exists widespread consensus that, without a sense of smell, human beings would not have been able to survive.

250. Thousands of manufacturers rely on the productivity, high-performance and savings provided by modern-day industrial robots. ---- There are, in fact, a great number of reasons for this. Robots perform applications with greater precision and consistency. Furthermore, workers no longer have to endure hazardous tasks, since robots handle toxic substances and lift heavy loads without injury. Robots can also work at a constant speed with no breaks and reduce the amount of wasted material thanks to their accuracy, saving companies both time and money.

- A) Thus, any industry that does not utilize the concepts of robots are likely to be left behind and will not be able to compete with those manufacturers using robot technology.
- B) Many people believe the misconception that robots have taken away jobs from workers, but they have created new jobs for those who were once on production lines with programming.
- C) In addition, George Charles Devol is often called the father of robotics, and he invented the first industrial robot, the Unimate, in 1954.
- D) However, there are several choices of industrial robots with capabilities to meet a wide range of reach, speed and flexibility requirements.
- E) According to the Robot Institute of America, a robot is a multifunctional manipulator designed to move material, parts, tool or specialized devices.

251. The basic unit of all living organisms is the cell. Most animals and plants contain trillions of them and are called multicellular. However, life forms, such as bacteria, which are composed of just one, are called unicellular. Cells are made up of protein material and are the fundamental machines of biology, within which all the processes responsible for sustaining life take place: energy production, tissue growth, homeostasis and hormone production. ----

- A) However, the cell theory of biology was first put forward in 1839 by German biologists Matthias Jakob Schleiden and Theodor Schwann.
- B) Furthermore, each kind of cell has a particular function determined by the enzymes within it.
- C) Thus, a class of microorganisms called protozoa have two nuclei.
- D) On the other hand, male sperm cells and female egg cells contain only one copy of each chromosome.
- E) In fact, microbiology is the study of organisms that are too small to be seen with the naked eye.

252. Some scientists think that the Earth began hot. According to this theory, the Earth formed from many smaller bodies drawn together by their mutual gravity. As each body hit the young Earth, the impact generated heat. ---- That is, the Earth has become much like a baked potato taken from the oven, cooling on the outside, but remaining hot inside because heat leaks very slowly from its interior.

- A) This led to the development of many of the Earth's species.
- B) The amount of heat lost depends on the surface area, but the amount of heat contained depends on the volume.
- C) Scientists were unsure which of the heating mechanisms were more important and whether they needed to interfere with the process.
- D) When the bombardment stopped, the Earth's surface cooled, but its interior has remained hot.
- E) The shifting of large blocks of the Earth's surface used to be called continental drift.

253. The invention of the telephone is usually credited to Alexander Graham Bell, who obtained the first patent for the device in 1876 and went on to commercial success. ---- Meucci had developed an electric treatment for rheumatism, and while electrocuting one of his patients, he heard a scream seemingly passing down the copper wire. Therefore, it remains disputed as to whether Bell or Meucci was the first inventor of the telephone.

- A) Even though he patented many inventions, Antonio Meucci never learned English well enough to navigate the complex American business.
- B) Similarly, Bell's immortalization in books and films has been plagued with generations of Italians who know the story of Antonio Meucci.
- C) However, it is argued that the Italian Antonio Meucci accidentally discovered an early version of the telephone-like device some years before.
- D) Actually, nothing in Bell's writing, character or his life after 1876 suggests that he stole Meucci's ideas.
- E) Apart from Bell, Meucci was a brilliant inventor who dealt with electronic communications and he also patented plastic paste in 1883.

254. Various economic analyses could be used while considering whether or not to start up a business. For example, if the existing music stores in your city are profitable, and you have enough money to start your own music store, should you do it? ---- In addition, your costs may be higher than the costs of the stores that are already established. It would be sensible to enter the market only if you expected a small drop in price and only a slightly bigger difference in cost.

- A) There is still the risk that the existing stores may try to protect their market shares by increasing their advertising.
- B) If you enter this market, the competition among the stores for customers will increase, leading to lower prices for CDs.
- C) As workers, we use such an analysis to decide how to produce goods and services, how much to produce, and how much to charge for them.
- D) Indeed, entering what appears to be a profitable market may sometimes turn out to be a financial disaster for the investors.
- E) Producers and consumers are free to adapt their activities to changes in market conditions and relative prices.

255. Publius Aelius Hadrianus was the emperor of Rome from AD 117 until his death in AD 138. He pursued a policy of non-expansion, especially during the late years of his reign, and reinforcement after the vast conquests of his predecessor Trajan's reign. ---- He travelled more widely than any other emperor, and strengthened both the army and Roman administration in the conquered lands.

- A) For most of his reign, he was challenged by many other emperors.
- B) It was defended by 16 military camps and other smaller fortifications.
- C) He was adopted by the emperor Trajan, whom he succeeded.
- D) It was damaged by the Picts on several occasions, and abandoned in about 383 AD.
- E) This practice was aimed at strengthening the boundaries of the empire.

256. As recently as 2007, Spain was a vigorous creator of growth and jobs. ---- However, those days are now over, and in recent years Spain has witnessed 20 per cent unemployment and a huge trade deficit. In the year 2010, as other European economies grew again, Spain's economy shrank. In 2011, its GDP (Gross Domestic Product) expanded by less than 1 per cent. The world's ninth-biggest economy in 2009 will soon be twelfth, overtaken by Russia, India and Canada. Recent reforms are a change in the right direction, but not enough to stop Spain from falling behind.

- A) It was notable at the time for its massive investments in these sectors of the economy.
- B) Economists wonder when it will turn to meaningful growth, a highly demanded economic measure.
- C) The Prime Minister of Spain, José Luis Rodríguez Zapatero, is a reluctant reformer.
- D) Spain refuses to admit that many of its financial problems are caused internationally.
- E) Spanish Prime Minister, Zapatero, was slow to recognize market impatience with Spain's deficit.

257. Forensic science, which is a multidisciplinary field, involves the use of scientific techniques to solve criminal cases. TV shows in America are giving their viewers a distorted view of how it is carried out. The actors playing forensic personnel, for instance, are a mixture of police officer, detective and forensic scientist. However, this job description does not exist in the real world. ---- In fact, specialization within forensic laboratories has been the norm since the late 1980s. Every forensic scientist needs to know about other disciplines, but no scientist is an expert in every area.

- A) Police detectives, who used to gather about five pieces of evidence from a crime scene, say they are collecting more today.
- B) Yet, TV shows often incorrectly portray forensic scientists as having ample time for every case.
- C) Law enforcement, investigations and forensic science are each so complex that they demand their own education, training and methods.
- D) Several TV detectives or technicians, however, often devote their full attention to one investigation.
- E) Even so, enrolment in forensic science studies has recently increased substantially at many universities.

258. ---- The first is that price changes are normally distributed. In other words, most price changes are small moves up or down; very rarely are there extremely large changes. Second, price changes are statistically independent, that is, a price change today has nothing to do with past prices. Mandelbrot tears down these assumptions and shows how his models provide a far more accurate description of the risks involved in financial markets.

- A) Mandelbrot has been trying to persuade economists that his model can provide a more accurate description of price changes.
- B) Mandelbrot believes that markets are far riskier than economists believe.
- C) While the views of Mandelbrot are gradually being accepted, established models remain dominant.
- D) The assumption that economics is not a full-fledged science has been challenged by two eminent scholars.
- E) There are two assumptions that have been at the root of economics since its foundation about a century ago.

259. A virus is an infectious organism that is much smaller than a fungus or bacterium, and it needs a living cell in order to reproduce. The virus attaches to a cell, often a specific type of cell. Once inside the cell, the virus releases its DNA or RNA, which contains the information needed to create new virus particles, and takes control of some aspects of the cell's metabolism. ----

- A) The body has a number of specific and nonspecific defences against these viruses of animal origin.
- B) Bacteria-caused diseases, however, are treatable through simple antibiotics.
- C) The components of the virus are then manufactured inside the cell.
- D) The most common viral infections are probably those of the lungs and airways.
- E) Vaccines resembling the virus can be given to people to help them overcome the infection.

260. Most countries that put a value on individual liberty allow competent adults to refuse any medical treatment even if it is life-saving. A patient, for example, may refuse an essential blood transfusion, although it is vital. ---- In legal terms, this would amount to committing a crime.

- A) If doctors were to impose treatment against the will of the patient, they then would be violating the bodily integrity of the person without consent.
- B) Now that the patient thinks his health will affect his ability to make decisions in the future, he can make an advance decision to refuse medical treatment.
- C) Unless the patient is 18 or over, his decision to refuse medical treatment will not be valid and accepted by health care professionals.
- D) Moreover, by law, a valid advance decision refusing life-saving treatment means that the patient cannot be treated.
- E) Even if the patient does not want treatment that is available, he could allow a new one.

261. Anorexia simply means loss of appetite, something experienced by most people from time to time. ---- The result, inevitably, is severe loss of weight. Anorexia nervosa is common in models, actresses, dancers and others who are much concerned with the appearance of their bodies. In a minority of cases, it is a symptom of a serious underlying psychiatric disorder such as schizophrenia.

- A) Even after normal weight has been regained, a young woman who has had anorexia nervosa may need to remain under psychiatric care.
- B) Furthermore, many anorexics come from close-knit families that are often obsessive in their habits.
- C) Thus, anorexia nervosa demands skilled treatment in hospital under the care of those experienced in the condition.
- D) However, it can develop into a serious disorder of perception that causes the sufferer, almost always a young woman, to believe that she is too fat.
- E) Often a system of rewards could be effective, in which privileges, such as visits, are rewarded for weight gained.

262. Many people choose to take a daily multivitamin as a form of nutritional health insurance. Many refined and processed foods often lack nutritional value. In these situations, a multivitamin can initially make up for any possible shortfall in your diet. ---- For example, a recent study showed that a regular multivitamin and mineral supplement improved the immune system and reduced the risk of infections in a group of elderly people.

- A) Even a well-balanced diet cannot always provide all the vitamins and minerals the body requires for its special needs.
- B) The vitamin A is usually synthesized from vegetable sources and therefore is suitable for vegetarians.
- C) Multivitamin intake may also help to boost your body's defences against infections and other minor illnesses.
- D) Nutrition plays an important role in the development of the brain, but supplements will not enhance intelligence.
- E) Most children's multivitamins normally include sugars or sweeteners, sometimes as a high proportion of the chewable tablet.

263. We tend to think that stress is like a pair of slippers – one size fits all. Either we are stressed or we are not. But the fact is that it comes in different shapes, sizes and levels of intensity. ---- However, the danger is that stress, which often increases as we age, is a major driver of health problems. Stress diminishes our immune system and it alters variability of our heart rates, which may lead to fatal health problems.

- A) For example, stress heightens all of our biological systems so that we can deal with a potential threat.
- B) Furthermore, some of us certainly worry more than others and some of us are much better equipped to cope with emergencies than others.
- C) The big difference between stress today and stress yesterday is not the fact that cavemen did not have e-mail; it's that their stress was temporary.
- D) Too much stress can lead to a number of problems like heart attacks, cancer and disabling accidents.
- E) In contrast, there seems to be a direct relationship between stress and aging; more stress means faster aging.

264. Logic as an academic discipline was invented by Aristotle and is concerned with argument, validity, proof, definition and consistency. Undoubtedly, even before formal logic was recognized, people were reasoning in consistent and logical ways. ---- During the Middle Ages, Arabic and European cultures also contributed to the field. During the nineteenth and twentieth centuries, there were numerous developments in mathematical logic.

- A) Aristotle taught many subjects including syllogism, an argument in the form of two premises and a conclusion.
- B) To introduce formal logic to students, it is useful to explain that logic examines how arguments are constructed.
- C) Therefore, Aristotle, the Father of Logic, referred to inductive logic as “a passage from individuals to universals”.
- D) There are several kinds of logic, the most common of which are deductive and inductive logic.
- E) Nevertheless, Aristotle was the first philosopher to identify and formalize rules for this branch of philosophy.

265. Eating too much fatty food, exercising too little and smoking can raise your future risk of heart disease. ---- Previous studies have linked exposure to environmental pollution to an increased risk of heart problems, but the two analyses now show that poor air quality can lead to a heart attack or stroke within as little as a few hours after exposure. Scientists found that people exposed to high levels of pollutants were up to 5% more likely to suffer a heart attack within days of exposure than those with lower exposure.

- A) This can be reduced, however, if you exercise outside in the fresh air.
- B) Heart disease is reversible if the underlying disease can be treated.
- C) But there is another factor that can trigger heart problems more immediately.
- D) The risks are relatively low for people who “smoke socially” and have lower cholesterol levels.
- E) Strict regulation of pollutants may not only improve air quality but could also become necessary to protect public health.

266. Four hundred years after he was born, the 17th century Ottoman traveller Evliya Çelebi is making a long-overdue international comeback. Explorer, peace broker, tax collector, war chronicler and mystic, Evliya spent 40 years travelling in the Middle East. His 10-volume Seyahatname is an epic travelogue that provides a fascinating account of everyday life in the 17th century. ---- UNESCO decreed him Man of the Year in 2011 and the recent publication of An Ottoman Traveller allows English-language readers to discover his masterpiece.

- A) Though previously little known outside of Turkey, Evliya is finally going global.
- B) You can still feel the joy of Evliya’s journey across Turkey’s vast and unspoiled countryside.
- C) This work was also appreciated by foreigners, particularly English speakers.
- D) Evliya loved eating and wrote in detail of the regional specialties he sampled.
- E) One can trace the early stages of Evliya’s journey from Istanbul to Mecca.

267. Living in a country with the world’s highest murder rate, Hondurans have grown grimly accustomed to untimely deaths. ---- A fire in a prison in Comayagua may have been the world’s deadliest prison fire ever. Rescue crews said they had no way to save the prisoners, because they could not find the guards with the keys to release the inmates from the overcrowded prison.

- A) Therefore, the national prison director has admitted the system is failing and needs a lot of investment.
- B) The cause of the disaster has not been determined, but officials suggest it might have been a protesting inmate setting his mattress alight.
- C) Yet even they were shocked on February 15th to hear reports of a further cruel consequence of the country’s high crime rate.
- D) However, the scale of the tragedy became clear when the Honduran President called it “a day of deep pain”.
- E) Honduran inmates suffered from malnutrition, poor sanitation and insufficient medical care, and they had access to weapons.