



# PTE Magazine

## Summarize written text

### V5.0

#### Summary of changes:

- *39 new texts added to the pamphlet (43 ~82)*
- *New sample answers added to the pamphlet.*

**PTE**  
**MAGAZINE**





## Summarize Written Text Template

Whereas principles of N attribute to N and N, the significance of N would relate to not only N but also N and N, so as not to undermine the implications of N, N, N, N, N, and N as well as N.

Total word count: 43

Number of Ns (Key points): 14

### Tips:

- 1- Extract the most important key points from the text, including nouns, adjectives, and verbs.
- 2- You should substitute the Ns with the extracted key points.
- 3- You should replace those Ns in the template with a noun or a noun phrase. So, if necessary, make appropriate adjustments to your key points. For example, if you extract an important verb, convert it to a noun.
- 4- Write a summary of approximately 50 words. We do not suggest very long and wordy summaries.
- 5- When replacing Ns with key points from the text, REMEMBER TO USE A SUITABLE ARTICLE/MODIFIER.  
<https://t.me/PTEmagazine/1237>  
<https://t.me/PTEmagazine/1238>  
<https://www.grammarly.com/blog/articles/>
- 6- When replacing Ns with key points from the text, DO NOT USE A PHRASE WITH MORE THAN FOUR WORDS. For example, “dominating the foreign exchange trading” is not suggested.
- 7- When replacing Ns with key points from the text, DO NOT USE PHRASES THAT HAVE “and,” “or” EMBEDDED IN THEM. For example, “educational equity and quality” should not be placed instead of one N. Alternatively, break it into two parts.
- 8- Try to keep “not only N but also N and N” structure as short as possible. We suggest using one-word key points for them. For example, conservancies, opportunities, Namibia, etc.
- 9- The number of Ns after the word “implications” completely depends on the text and your understanding of it. You can delete some of them if you feel your key points are adequate.
- 10- Please pay attention to the punctuation.

#summarize\_written\_text #swt #template

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## 1. Pascolena Florry

When Namibia gained independence in 1990, teenager Pascolena Florry was herding goats in the country's dry, desolate northern savannah. Her job 'unpaid and dangerous' was to protect her parents' livestock from preying jackals and leopards. She saw wildlife as the enemy, and many of the other indigenous inhabitants of Namibia's rural communal lands shared her view. Wildlife poaching was commonplace. Fifteen years later, 31-year-old Pascolena's life and outlook are very different. She has built a previously undreamed-of career in tourism and is the first black Namibian to be appointed the manager of a guest lodge. Her village and hundreds of others have directly benefited from government efforts to devolve wildlife management and tourism development on communal lands to conservancies run by indigenous peoples. "Now we see the wildlife as our way of creating jobs and opportunities as the tourism industry grows", she also says. "The future is better with wildlife around not only for jobs but also for the environment" (Florry 2004).

### Sample answer(s):

*Whereas principles of Namibia's independence attribute to indigenous inhabitants and the environment, the significance of wildlife management would relate to not only conservancies but also poaching, so as not to undermine the implications of the tourism industry, tourism development, government efforts, and creating jobs as well as opportunities. (48 words)*

*The establishment of conservancies, run by local communities and assisted by the government and NGOs, has been proved successful to help developing countries to decentralize natural resources, create jobs and improve the economy. (33 words)*

*Although Namibian people saw wildlife as their enemy during the time Namibia became independent, their life changed and they have benefited from governmental efforts for devolution of wildlife management and tourism development to NGOs and conservancies run by indigenous people by creating jobs and growth in tourism industry. (48 words)*

## 2. Children's Watching TV

Why and to what extent should parents control their children's TV watching? There is certainly nothing inherently wrong with TV. The problem is how much television a child watches and what effect it has on his life. Research has shown that as the amount of time spent watching TV goes up, the amount of time devoted not only to homework and study but other important aspects of life such as social development and physical activities decreases.

Television is bound to have its tremendous impact on a child both in terms of how many hours a week he watches TV and of what he sees. When a parent is concerned about the effects of watching television he should consider a number of things: what TV offers the child in terms of information and knowledge, how many hours a week a youngster his age should watch television, the impact of violence and sex, and the influence of commercials.

What about the family as a whole? Is the TV set a central piece of furniture in your home! Is it flicked on the moment someone enters the empty house? Is it on during the daytime? Is it part of the background noise of your family life? Do you demonstrate by your own viewing that television should be watched selectively?

Since television is clearly here to stay it is important that parents manage their children's TV viewing so that it can be a plus rather than a minus in the family situation.

### **Sample answer(s):**

*Whereas principles of children's TV watching attribute to parental control and social development, the significance of TV viewing would relate to not only violence but also sex and commercials, so as not to undermine the implications of physical activity, information, and knowledge as well as homework. (46 words)*

*Watching too much television has negative effects on important aspects of children's life and it is not television but the way that parents manage their children's TV watching, including the time they spend on, the programs they watch and even how the family deal with the TV, that matters. (49 words)*

*Although nothing is inherently wrong with TV, it has been shown that the amount of time a child spends on TV in addition to the effects of contents it offers can negatively affect different aspects of a child's life, and it should be managed by parents so that it can be beneficial rather than detrimental in the family situation. (59 words)*

### 3. SLP Officer

Armed police have been brought into NSW schools to reduce crime rates and educate students. The 40 School Liaison Police (SLP) officers have been allocated to public and private high schools across the state. Organizers say the officers, who began work last week, will build positive relationships between police and students. But parent groups warned of potential dangers of armed police working at schools in communities where police relations were already under strain. Among their duties, the SLPs will conduct crime prevention workshops, talking to students about issues including shoplifting, offensive behavior, graffiti and drugs, and alcohol. They can also advise school principals. One SLP, Constable Ben Purvis, began to work in the inner Sydney region last week, including at Alexandria Park Community School's senior campus. Previously stationed as a crime prevention officer at The Rocks' he now has 27 schools under his jurisdiction in areas including The Rocks, Redfern and Kings Cross.

Constable Purvis said the full-time position would see him working on the broader issues of crime prevention. "I am not a security guard", he said. "I am not there to patrol the school. We want to improve relationships between police and schoolchildren, to have a positive interaction. We are coming to the school and giving them the knowledge to improve their own safety."

The use of fake ID among older students is among the issues he has already discussed with principals.

Parents' groups responded to the program positively, but said it may spark a range of community reactions.

"It is a good thing and an innovative idea and there could be some positive benefits", Council of Catholic School Parents executive officer

Danielle Cronin said. "Different communities will respond to this kind of presence in different ways."

#### **Sample answer(s):**

*Whereas principles of armed police attribute to crime rates and potential dangers, the significance of crime prevention workshops would relate to not only students but also officers and parents, so as not to undermine the implications of positive relationships, offensive behavior, alcohol, drugs, and shoplifting as well as educating school children. (51 words)*

*School liaison police have been brought into NSW schools to reduce crime rates and improve students' safety by conducting workshops and some people believe it a good thing while others not. (31 words)*

*The SLP officers have been assigned to public and private high schools in NSW to not only reduce the crime rates, but also to establish positive relationships and interactions between police and students by conducting crime prevention workshops, and although this has received positive responses from parents' groups and Council of Catholic School Parents, it is said that different communities will respond to this kind of presence differently. (68 words)*



#### 4. Cow and Grass

The co-evolutionary relationship between cows and grass is one of nature's underappreciated wonders; it also happens to be the key to understanding just about everything about modern meat. For the grasses, which have evolved to withstand the grazing of ruminants, the cow maintains and expands their habitat by preventing trees and shrubs from gaining a foothold and hogging the sunlight; the animal also spreads grass seed, plants it with his hooves, and then fertilizes it with his manure. In exchange for these services, the grasses offer ruminants a plentiful and exclusive supply of lunch. For cows (like sheep, bison, and other ruminants) have evolved the special ability to convert grass – which single-stomached creatures like us can't digest – into high-quality protein. They can do this because they possess what is surely the most highly evolved digestive organ in nature: the rumen. About the size of a medicine ball, the organ is essentially a forty-five-gallon fermentation tank in which a resident population of bacteria dines on grass. Living their unseen lives at the far end of the food chain that culminates in a hamburger, these bacteria have, just like the grasses, coevolved with the cow, whom they feed. Truly this is an excellent system for all concerned: for the grasses, for the bacteria, for the animals, and for us, the animal eaters.

##### **Sample answer(s):**

*Whereas principles of co-evolutionary relationships attribute to cows and grass, the significance of the grazing of ruminants would relate to not only bacteria but also protein and animals, so as not to undermine the implications of planting with hooves, fertilizing, and digestive organs as well as single-stomached creatures. (48 words)*

*There is a co-evolutionary relationship among cows, grass and bacteria as cows have rumen where bacteria could digest grass into high quality protein while they help the grass spread seed by their hooves and also provide manure to it. (39 words)*

*The co-evolutionary and underappreciated relationship between cows and grass is based upon spreading grass seed, planting it with their hooves, fertilizing it with their manure, and a highly evolved organ called rumen, where bacteria that convert grass into high-quality-protein reside, which ultimately constitutes a flawless system for the grass, bacteria, animals and animal eaters. (54 words)*

## 5. Australian Education

When Australians engage in debate about educational quality or equity, they often seem to accept that a country cannot achieve both at the same time. The lecture will present compelling international evidence that there are countries which do, though Australia is not among them.

Curriculum reforms intended to improve equity often fail to do so because they increase breadth or differentiation in offerings in a way that increases differences in quality. Further, these differences in quality often reflect differences in students, social backgrounds because the 'new' offerings are typically taken up by relatively disadvantaged students who are not served well by them. Evidence from New South Wales will be used to illustrate this point. The need to improve the quality of education is well accepted across OECD and other countries as they seek to strengthen their human capital to underpin their modern, knowledge economies. Improved equity is also important for this purpose since the demand for high-level skills is widespread and the opportunities for the low-skilled are diminishing.

Improved equity in education is also important for social cohesion. There are countries in which the education system seems primarily to reproduce existing social arrangements, conferring privilege where it already exists and denying it where it does not. Even in countries where the diagnosis might be less extreme, the capacity of schooling to build social cohesion is often diminished by the way in which schools separate individuals and groups.

### Sample answer(s):

*Whereas principles of Australia's education system attribute to social cohesion and arrangements, the significance of curriculum reforms would relate to not only quality but also equity, so as not to undermine the implications of high-level skills, social backgrounds, and human capital as well as students. (45 words)*

*Although improved educational equity increases differences in quality so that educational equity and quality can't be achieved at the same time, improved educational equity and quality are still important because they could strengthen human capital and social cohesion. (38 words)*

*Improving the equity and quality of education is important for social cohesion and strengthening the human capital respectively, and although Australians seem to accept that these two cannot be achieved simultaneously, there are compelling international evidence of other countries which have achieved both at the same time. (47 words)*

## 6. National Prohibition Act

In 1920, the Eighteenth Amendment to the United States Constitution was enacted, creating yet another serious setback to the American ageing industry. The National Prohibition Act, also known as the Volstead Act, prohibited the manufacture, sale, transportation, importation, exportation, delivery, or possession of intoxicating liquors for beverage purposes, and nearly destroyed what had become a thriving national industry. In 1920 there were more than seven hundred wineries in California. By the end of prohibition, there were 160.

If prohibition had lasted only four or five years, its impact on the wine industry might have been negligible. But it continued for thirteen years, during which time grapes went underground literally and figuratively, becoming an important commodity in the criminal economy. One loophole in the Volstead Act allowed for the manufacture and sale of sacramental wines, medicinal wines for sale by pharmacists with a doctor's prescription, and medicinal wine tonics (fortified wines) sold without a prescription. Perhaps more importantly, prohibition allowed anyone to produce up to two hundred gallons of fruit juice or cider each year. The fruit juice, which was sometimes made into concentrate, was ideal for making wine. Some of this yield found its way to bootleggers throughout America who did just that. But not for long, because the government stepped in and banned the sale of grape juice, preventing illegal wine production. Vineyards stopped being planted, and the American wine industry ground to a halt.

### Sample answer(s):

*Whereas principles of the American wine industry attribute to the National Prohibition Act and destroying a thriving industry, the significance of the criminal economy would relate to not only importation but also delivery and exportation, so as not to undermine the implications of grape juice, vineyards, medicinal wines, and bootleggers. (50 words)*

*In 1920, the Volstead Act came into effect and lasted for 13 years to prohibit the manufacture, sale, transportation, importation, exportation, delivery, or possession of intoxicating liquors and almost destroyed this industry though its loophole allowed for the production of some kinds of wine and fruit juice which later on was banned by the government. (55 words)*

*The Eighteenth Amendment to the United States Constitution, known as Volstead Act, was enacted in 1920 to prohibit the manufacturing, selling, transporting, importing, exporting, delivery or possession of intoxicating liquors for beverage purposes, and this resulted in underground production of wine by bootleggers until the governmental intervention banned the grape juice sale, although one loophole in this act allowed medicinal use of wine tonics. (64 words)*

## 7. The City of London

Who would have thought back in 1698, as they downed their espressos, that the little band of stockbrokers from Jonathan's Coffee House in Change Alley EC3 would be the founder-members of what would become the world's mighty money capital?

Progress was not entirely smooth. The South Sea Bubble burst in 1720 and the coffee house exchanges burned down in 1748. As late as Big Bang in 1986, when bowler hats were finally hung up, you wouldn't have bet the farm on London surpassing New York, Frankfurt and Tokyo as Mammon's international nexus. Yet the 325,000 souls who operate in the UK capital's financial hub have now overtaken their New York rivals in size of the funds managed (including offshore business); they hold 70% of the global secondary bond market and the City dominates the foreign exchange trading. And its institutions paid out £9 billion in bonuses in December. The Square Mile has now spread both eastwards from EC3 to Canary Wharf and westwards into Mayfair, where many of the private-equity 'locusts' and their hedge-fund pals now hang out. For foreigners in finance, London is the place to be. It has no Sarbanes-Oxley and no euro to hold it back, yet the fact that it still flies so high is against the odds. London is one of the most expensive cities in the world to live in, transport systems groan and there's an ever-present threat of terrorist attack. But, for the time being, the deals just keep on getting bigger.

### Sample answer(s):

*Whereas principles of the world's mighty money capital attribute to international nexus and London, the significance of the financial hub would relate to not only finance but also stockbrokers, so as not to undermine the implications of the global market, foreign exchange trading, expensive cities, and transport systems as well as terrorist attacks. (53 words)*

*London has surpassed its rivals and has dominated global financial markets to become the world's mighty money capital due to its judicial and currency advantages even though the expansion progress was not smooth. (33 words)*

*Although the progression of London money market was not entirely smooth, since there is no Sarbanes-Oxley and no euro to impede, the UK capital's financial hub has now overtaken 70% of the global secondary bond market, and that is why London's deals continue to get bigger in spite of being one of the most expensive cities with a groaning transportation system in addition to an ever-present threat of terrorist attacks. (70 words)*

## 8. Asking Questions

All non-human animals are constrained by the tools that nature has bequeathed them through natural selection. They are not capable of striving towards truth; they simply absorb information, and behave in ways useful for their survival. The kinds of knowledge they require of the world have been largely pre-selected by evolution. No animal is capable of asking questions or generating problems that are irrelevant to its immediate circumstances or its evolutionarily-designed needs. When a beaver builds a dam, it doesn't ask itself why it does so, or whether there is a better way of doing it. When a swallow flies south, it doesn't wonder why it is hotter in Africa or what would happen if it flew still further south.

Humans do ask themselves these and many other kinds of questions, questions that have no relevance, indeed make little sense, in the context of evolved needs and goals. What marks out humans is our capacity to go beyond our naturally-defined goals such as the need to find food, shelter or a mate and to establish human-created goals.

Some contemporary thinkers tend to believe that there are indeed certain questions that humans are incapable of answering because of our evolved nature. Steven Pinker, for instance, argues that "Our minds evolved by natural selection to solve problems that were life-and-death matters to our ancestors, not to commune with correctness or to answer any question we are capable of asking. We cannot hold ten thousand words in our short-term memory. We cannot see ultra-violet light. We cannot mentally rotate an object in the fourth dimension. And perhaps we cannot solve conundrums like free will and sentience."

### **Sample answer(s):**

*Whereas principles of striving towards the truth attribute to asking questions and generating problems, the significance of our evolved nature would relate to not only needs but also goals and capacities, so as not to undermine the implications of natural selection, solving conundrums, and absorbing information as well as tools. (50 words)*

*Unlike animals that could only absorb information pre-selected by the nature, humans can ask themselves questions which are irrelevant to naturally-defined needs and goals and some people believe that humans are also incapable of answering some questions due to the evolved nature. (42 words)*

*While non-human animals do not have the ability to ask questions irrelevant to their evolutionary-designed needs and humans have the capacity to go beyond their naturally-defined goals, some contemporary thinkers believe that due to humans' evolved nature, there are certain questions other than life-and-death matters and conundrums that humans cannot solve such as free will and sentience. (52 words)*

## 9. Diaspora Consciousness

Diasporas — communities which live outside, but maintain links with, their homelands — are getting larger, thicker and stronger. They are the human face of globalization. Diaspora consciousness is on the rise: diasporans are becoming more interested in their origins, and organizing themselves more effectively; homelands are revising their opinions of their diasporas as the stigma attached to emigration declines, and stepping up their engagement efforts; meanwhile, host countries are witnessing more assertive diasporic groups within their own national communities, worrying about fifth columns and foreign lobbies, and suffering outbreaks of ‘diasporaphobia’.

This trend is the result of five factors, all of them connected with globalization: the growth in international migration; the revolution in transport and communications technology, which is quickening the pace of diasporans, interactions with their homelands; a reaction against global homogenized culture, which is leading people to rethink their identities; the end of the Cold War, which increased the salience of ethnicity and nationalism and created new space in which diasporas can operate; and policy changes by national governments on issues such as dual citizenship and multiculturalism, which are enabling people to lead transnational lives. Diasporas such as those attaching to China, India, Russia and Mexico are already big, but they will continue to grow; the migration flows which feed them are likely to widen and quicken in the future.

### Sample answer(s):

*Whereas principles of diasporas attribute to international migration and communication technology, the significance of diaspora consciousness would relate to not only globalization but also emigration and communities, so as not to undermine the implications of the revolution in transport, a homogenized culture, multiculturalism, and policy changes as well as national governments. (51 words)*

*The trend that diasporas are conscious about their origins and that host countries are suffering outbreaks of diasporaphobia, results from five factors related to globalization: the growth in international migration, transportation and communication technology revolution, a reaction against global homogenized culture, the end of the Cold War and policy changes by governments. (52 words)*

*The trend that diasporas, human face of globalization, are becoming more interested in and conscious about their origins and the fact that host countries are suffering outbreaks of diasporaphobia, is rooted in five factors namely the growth in international migration, transportation and communications technology revolution, a reaction against global homogenized culture, the end of Cold War and policy changes by national governments. (62 words)*

## 10. Call for Revolutionary Thinking

We live in an ageing world. While this has been recognized for some time in developed countries, it is only recently that this phenomenon has been fully acknowledged. Global communication is “shrinking” the world, and global ageing is “maturing” it. The increasing presence of older persons in the world is making people of all ages more aware that we live in a diverse and multigenerational society. It is no longer possible to ignore ageing, regardless of whether one views it positively or negatively.

Demographers note that if current trends in ageing continue as predicted, a demographic revolution, wherein the proportions of the young and the old will undergo a historic crossover, will be felt in just three generations. This portrait of change in the world’s population parallels the magnitude of the industrial revolution – traditionally considered the most significant social and economic breakthrough in the history of humankind since the Neolithic period. It marked the beginning of a sustained movement towards modern economic growth in much the same way that globalization is today marking an unprecedented and sustained movement toward a “global culture. The demographic revolution, it is envisaged, will be at least as powerful.

While the future effects are not known, a likely scenario is one where both the challenges as well as the opportunities will emerge from a vessel into which exploration and research, dialogue and debate are poured. Challenges arise as social and economic structures try to adjust to the simultaneous phenomenon of diminishing young cohorts with rising older ones’ and opportunities present themselves in the sheer number of older individuals and the vast resources societies stand to gain from their contribution. This ageing of the population permeates all social, economic and cultural spheres. Revolutionary change calls for new, revolutionary thinking, which can position policy formulation and implementation on sounder footing. In our ageing world, new thinking requires that we view ageing as a lifelong and society-wide phenomenon, not a phenomenon exclusively pertaining to older persons.

### Sample answer(s):

*Whereas principles of revolutionary thinking attribute to new thinking and revolutionary changes, the significance of a global culture would relate to not only shrinking but also maturing and the aging world, so as not to undermine the implications of global communication, exploration, policy formulation, and research as well as vast resources. (50 words)*

*If the fact and trend that we are living in an ageing world continues, the demographic revolution, as powerful as the industrial revolution, will bring both challenges and opportunities to the society and will be a lifelong and society wide phenomenon. (41 words)*

*Although it is envisaged that the change in world’s population parallels with the industrial revolution in terms of magnitude, the future effects are unknown, and this calls for revolutionary thinking and requires to view the ageing as a lifelong and society-wide phenomenon rather than a phenomenon exclusively relating to older people since it brings with it both challenges and opportunities. (60 words)*

## 11. The Problem of Prediction

As far as prediction is concerned, remember that the chairman of IBM predicted in the fifties that the world would need a maximum of around half a dozen computers, that the British Department for Education seemed to think in the eighties that we would all need to be able to code in BASIC and that in the nineties Microsoft failed to foresee the rapid growth of the Internet. Who could have predicted that one major effect of the automobile would be to bankrupt small shops across the nation? Could the early developers of the telephone have foreseen its development as a medium for person-to-person communication, rather than as a form of broadcasting medium? We all, including the 'experts' seem to be peculiarly inept at predicting the likely development of our technologies, even as far as the next year. We can, of course, try to extrapolate from experience of previous technologies, as I do below by comparing the technology of the Internet with the development of other information and communication technologies and by examining the earlier development of radio and print. But how justified I might be in doing so remains an open question. You might conceivably find the history of the British and French videotex systems, Prestel and Minitel, instructive. However, I am not entirely convinced that they are very relevant, nor do I know where you can find information about them on-line, so, rather than take up space here, I've briefly described them in a separate article.

### Sample answer(s):

*Whereas principles of the problem of prediction attribute to communication technologies and technological developments, the significance experts would relate to not only foreseeing but also predicting and examining, so as not to undermine the implications of finding information, comparing the technology, and extrapolating from experience. (45 words)*

*We all, including expert, seem to be unlikely to predict the development of our, even recent, technologies, though you could compare them with earlier technologies and find relevant information. (29 words)*

*Although we can try to extrapolate from experiences of prior technologies, we all, including the 'experts', seem to be unable to predict our likely technological developments even for one-year-horizon, and whether those historical information are irrelevant or convincing is still an open debate. (43 words)*



## 12. Are Female Songbirds Evolution's Unsung Heroines?

Males do the singing and females do the listening. This has been the established, even cherished view of courtship in birds, but now some ornithologists are changing tune.

Laszlo Garamszegi of the University of Antwerp, Belgium, and colleagues studied the literature on 233 European songbird species. Of the 109 for which information on females was available, they found evidence for singing in 101 species. In only eight species could the team conclude that females did not sing.

Females that sing have been overlooked, the team say because either their songs are quiet, they are mistaken for males from their similar plumage or they live in less well-studied areas such as the tropics. Garamszegi blames Charles Darwin for the oversight. "He emphasized the importance of male sexual display, and this is what everyone has been looking at."

The findings go beyond modern species. After carefully tracing back an evolutionary family tree for their songbirds, Garamszegi team discovered that, in at least two bird families, singing evolved in females first. They suggest these ancient females may have been using their songs to deter other females from their territories, to coordinate breeding activities with males, or possibly to attract mates.

"It leaves us with a perplexing question," says Garamszegi. "What evolutionary forces drove some females to give up singing?" Before people believed that male sings and female listen, traditionally studies normally focus on males as they are more important in xx areas. After examining the family tree of songbird, at least two female sings for surviving reasons.

### **Sample answer(s):**

*Whereas principles of courtship in birds attribute to songbird species and evolutionary forces, the significance of singing would relate to not only males but also females, so as not to undermine the implications of surviving reasons, attracting mates, and coordinating breeding activities as well as territories. (46 words)*

*A research done by Laszlo Garamszegi and his team shows that most female songbirds could sing and some species sing for surviving reasons and that this fact is overlooked due to Darwin's emphasis on the importance of male display. (39 words)*

*While it has been traditionally established that males sing and females listen since male birds were thought to be more important, Laszlo Garamszegi and his colleagues came to a conclusion that in at least two bird families, singing evolved in females first to deter other females from their territories in addition to coordinating breeding activities, and singing females have been overlooked as a consequence of Charles Darwin's blundering insight. (69 words)*

### 13. Country Living

Live in the country and last three years longer than my city friends? Good news indeed, more backing for a lifestyle choice made half a lifetime ago when it seemed a good idea to exchange an Edinburgh terrace for a farm cottage.

I knew it was a good idea because I had been there before. Born and reared on a farm I had been seduced for a few years by the idea of being a big shot who lived and worked in a city rather than only going for the day to wave at the buses.

True, I was familiar with some of the minor disadvantages of country living such as an iffy private water supply sometimes infiltrated by a range of flora and fauna (including, on one memorable occasion, a dead lamb), the absence of central heating in farm houses and cottages, and a single-track farm road easily blocked by snow, broken-down machinery or escaped livestock.

But there were many advantages as I told Liz back in the mid-Seventies. Town born and bred, eight months pregnant and exchanging a warm, substantial Corstorphine terrace for a windswept farm cottage on a much lower income, persuading her that country had it over town might have been difficult.

**Sample answer(s):**

*Whereas principles of country life attribute to minor disadvantages and advantages, the significance of a country would relate to not only farms but also cottages and cities, so as not to undermine the implications of farmhouses, terraces, livestock, and fauna as well as flora. (45 words)*

*Although there are many advantages of country living, it is still difficult to persuade a town born and bred person to live in the country due to disadvantages and inconvenience of country living life. (34 words)*

*Although it is said that there does exist minor drawbacks to living in the country namely an iffy private water supply and the absence of central heating, it seemed a good idea to exchange a city terrace for a farm cottage, however, it is still hard to persuade a town born and raised eight months pregnant woman to live in the country. (61 words)*

## 14. House Mice

According to new research, house mice (*Mus musculus*) are ideal biomarkers of human settlement, as they tend to stow away in crates or on ships that end up going where people go. Using mice as a proxy for human movement can add to what is already known through archaeological data and answer important questions in areas where there is a lack of artifacts, Searle said.

Where people go, so do mice, often stowing away in carts of hay or on ships. Despite a natural range of just 100 meters (109 yards) and an evolutionary base near Pakistan, the house mouse has managed to colonize every continent, which makes it a useful tool for researchers like Searle.

Previous research conducted by Searle at the University of York supported the theory that Australian mice originated in the British Isles and probably came over with convicts shipped there to colonize the continent in the late 18th and 19th centuries.

In the Viking study, he and his fellow researchers in Iceland, Denmark and Sweden took it a step further, using ancient mouse DNA collected from archaeological sites dating from the 10th to 12th centuries, as well as modern mice.

He is hoping to do just that in his next project, which involves tracking the migration of mice and other species, including plants, across the Indian Ocean, from South Asia to East Africa.

### Sample answer(s):

*Whereas principles of house mice attribute to tracking migration and colonizing continents, the significance of mouse DNA would relate to not only biomarkers but also proxies and tools, so as not to undermine the implications of human movement, human settlement, and researchers as well as ships. (46 words)*

*Due to their nature of stowing away around humans, house mice are used by researchers as additional information sources to known archaeological data, to study human settlement and movement. (29 words)*

*As house mice are excellent biomarkers of human settlement, they can be utilized as a proxy for human movement when not enough archaeological data and artefacts are available, and it is hoped to track the migration of mice and other species, including plants, by using ancient mice DNA that were collected and studied in the Viking research. (57 words)*

## 15. Beauty Contest

Since Australians Jennifer Hawkins and Lauryn Eagle were crowned Miss Universe and Miss Teen International respectively, there has been a dramatic increase in interest in beauty pageants in this country. These wins have also sparked a debate as to whether beauty pageants are just harmless reminders of old-fashioned values or a throwback to the days when women were respected for how good they looked.

Opponents argue that beauty pageants, whether it's Miss Universe or Miss Teen International, are demeaning to women and out of sync with the times. They say they are nothing more than symbols of decline.

In the past few decades, Australia has taken more than a few faltering steps toward treating women with dignity and respect. Young women are being brought up knowing that they can do anything, as shown by inspiring role models in medicine such as 2003 Australian of the Year Professor Fiona Stanley.

In the 1960s and 70s, one of the first acts of the feminist movement was to picket beauty pageants on the premise that the industry promoted the view that it was acceptable to judge women on their appearance. Today many young Australian women are still profoundly uncomfortable with their body image, feeling under all kinds of pressures because they are judged by how they look.

Almost all of the pageant victors are wafer thin, reinforcing the message that thin equals beautiful. This ignores the fact that men and women come in all sizes and shapes. In a country where up to 60% of young women are on a diet at any one time and 70% of school girls say they want to lose weight, despite the fact that most have a normal BMI, such messages are profoundly hazardous to the mental health of young Australians.

### Sample answer(s):

*Whereas principles of beauty pageants attribute to old-fashioned values and mental health, the significance of the feminist movements would relate to not only dignity but also respect and appearance, so as not to undermine the implications of judging the body image, sizes, and shapes as well as treating women. (49 words)*

*Opponents to beauty pageants argue that it is demeaning to women and is a symbol of decline because in the past, Australian women were treated with dignity and respect, while beauty pageants, promoted from the 1960s, seem to convey that women could be judged on their appearance. (47 words)*

*While it is argued by many that beauty pageants are demeaning to women and are symbols of decline, and the fact that in the past women were treated with dignity and respect regardless of their appearance, beauty contests ignored the idea that men and women come in all sizes and shapes, and they were respected for how good they looked. (60 words)*

## 16. Comparative Advantages

With an abundance of low-priced labor relative to the United States, it is no surprise that China, India and other developing countries specialize in the production of labor-intensive products. For similar reasons, the United States will specialize in the production of goods that are human- and physical-capital intensive because of the relative abundance of a highly-educated labor force and technically sophisticated equipment in the United States.

This division of global production should yield higher global output of both types of goods than would be the case if each country attempted to produce both of these goods itself. For example, the United States would produce more expensive labor-intensive goods because of its more expensive labor and the developing countries would produce more expensive human and physical capital-intensive goods because of their relative scarcity of these inputs. This logic implies that the United States is unlikely to be a significant global competitor in the production green technologies that are not relatively intensive in human and physical capital.

Nevertheless, during the early stages of the development of a new technology, the United States has a comparative advantage in the production of the products enabled by this innovation. However, once these technologies become well-understood and production processes are designed that can make use of less-skilled labor, production will migrate to countries with less expensive labor.

### Sample answer(s):

*Whereas principles of low-priced labor attribute to labor-intensive products and human capital, the significance of the labor force would relate to not only global production but also output and new technology, so as not to undermine the implications of sophisticated equipment, less-skilled labor, and developing countries. (46 words)*

*Although some developing countries, such as China, become competent in the production green industries because they have a comparative advantage over the United States, in producing labor intensive goods due to the relatively lower-priced labor, the United States still has a comparative advantage enabled by innovation in the production at the early stage of the development of a new technology. (60 words)*

*While developing countries are specialized in producing labor-intensive products, the United States will specialize in human- and physical-capital intensive products and goods because of relatively abundance of a highly-educated labor force, and this leads to the fact that during early phases of development of a new technology, before becoming well-understood and emergence of green production technologies, the US has a comparative advantage enabled by innovation over developing countries. (68 words)*

## 17. Nobel Peace Prize

This year's Nobel Peace Prize justly rewards the thousands of scientists of the United Nations Climate Change Panel (the IPCC). These scientists are engaged in excellent, painstaking work that establishes exactly what the world should expect from climate change.

The other award winner, former US Vice President Al Gore, has spent much more time telling us what to fear. While the IPCC's estimates and conclusions are grounded in careful study, Gore doesn't seem to be similarly restrained.

Gore told the world in his Academy Award-winning movie (recently labeled "one-sided" and containing "scientific errors" by a British judge) to expect 20-foot sea-level rises over this century. He ignores the findings of his Nobel co-winners, the IPCC, who conclude that sea levels will rise between only a half-foot and two feet over this century, with their best expectation being about one foot. That's similar to what the world experienced over the past 150 years.

Likewise, Gore agonizes over the accelerated melting of ice in Greenland and what it means for the planet, but overlooks the IPCC's conclusion that, if sustained, the current rate of melting would add just three inches to the sea level rise by the end of the century. Gore also takes no notice of research showing that Greenland's temperatures were higher in 1941 than they are today.

Gore also frets about the future of polar bears. He calms they are drowning as their icy habitat disappears. However, the only scientific study showing any such thing indicates that four polar bears drowned because of a storm.

The politician-turned-movie maker loses sleep over a predicted rise in heat-related deaths. There's another side of the story that's inconvenient to mention: rising temperatures will reduce the number of cold spells, which are a much bigger killer than heat. The best study shows that by 2050, heat will claim 400,000 more lives, but 1.8 million fewer will die because of cold. Indeed, according to the first complete survey of the economic effects of climate change for the world, global warming will actually save lives.

### Sample answer(s):

*Whereas principles of the Nobel Peace Prize winner attribute to melting ice and sea-level rises, the significance of global warming would relate to not only temperatures but also colds and climate change, so as not to undermine the implications of icy habitats, polar bears, and heat-related deaths as well as saving lives. (52 words)*

*Al Gore, in his award-winning movie, expresses his fear about sea-level rises over this century, the accelerated melting of ice in Greenland, the future of polar bears predicted rise in heat-related deaths and these concerns go against scientific studies done by his co-winner of this year's Nobel Peace Prize, the IPCC. (51 words)*

*The former US VP, Al Gore, who was awarded Nobel Peace Prize, has different views on effects of climate change, namely the rise in the sea-level, accelerating melting of ice, the future of polar bears and a predicted rise in heat-related deaths, which do not comply with those of the IPCC, a group of dedicated scientists who also have won the prize. (62 words)*

## 18. Parent's Birth Order Affects Their Parenting

Parent's own birth order can become an issue when dynamics in the family they are raising replicate the family in which they were raised. Agati notes common examples, such as a firstborn parent getting into "raging battle" with a firstborn child. "Both are used to getting the last word. Each has to be right. But the parent has to be the grown-up and step out of that battle," he advises. When youngest children become parents, Agati cautions that because they "may not have had high expectations placed on them, they, in turn, may not see their kids for their abilities."

But he also notes that since youngest children tend to be more social, youngest parents can be helpful to their firstborn, who may have a harder time with social situations. These parents can help their eldest kids loosen up and not be so hard on themselves. Mom Susan Ritz says her own birth order didn't seem to affect her parenting until the youngest of her three children, Julie, was born. Julie was nine years younger than Ritz's oldest, Joshua, mirroring the age difference between Susan and her own older brother. "I would see Joshua do to Julie what my brother did to me," she says of the taunting and teasing by a much older sibling.

"I had to try not to always take Julie's side." Biases can surface no matter what your own birth position was, as Lori Silverstone points out. "M a middle myself, I can be harder on my older daughter. I recall my older sister hitting me," she says of her reactions to her daughters, tussles.

"My husband is a firstborn. He's always sticking up for the oldest. He feels bad for her that the others came so fast. He helps me to see what that feels like, to have that attention and then lose it." Silverstone sees birth-order triggers as "an opportunity to heal parts of ourselves. I've learned to teach my middle daughter to stand up for herself. My mother didn't teach me that. I'm conscious of giving my middle daughter tools so she has a nice way to protect herself."

Whether or not you subscribe to theories that birth order can affect your child's personality, ultimately, "we all have free will," Agati notes. It's important for both parents and kids to realize that, despite the characteristics often associated with birth order, "you're not locked into any role."

### Sample answer(s):

*Whereas principles of birth order attribute to firstborn parents and birth-order triggers, the significance of birth positions would relate to not only children but also characteristics and child's personality, so as not to undermine the implications of the age difference, high expectations, and youngest parents. (45 words)*

*Despite the theory that parents' own birth order can affect their parenting, and that parents usually replicate the family in which they were raised, both parents and children have free will to build up their own personality and characteristics. (39 words)*

*It is theorized that parents' birth order can affect a child's personality as the dynamics in the family they are raising may replicate those in which they were raised, however, it is noteworthy to realize that people are not to play any roles especially those that are associated with birth order. (51 words)*

## 19. Napping

A large new study has found that people who regularly took a siesta were significantly less likely to die of heart disease.

“Taking a nap could turn out to be an important weapon in the fight against coronary mortality,” said Dimitrios Trichopoulos of the Harvard School of Public Health in Boston, who led the study published yesterday in the Archives of Internal Medicine.

The study of more than 23,000 Greek adults the biggest and best examination of the subject to date — found that those who regularly took a midday siesta were more than 30 percent less likely to die of heart disease.

Other experts said the results are intriguing. Heart disease kills more than 650,000 Americans each year, making it the nation’s No. 1 cause of death.

“It’s interesting. A little siesta, a little snooze may be beneficial,” said Gerald Fletcher, a cardiologist at the Mayo Clinic in Jacksonville, Fla., speaking on behalf of the American Heart Association. “It’s simple, but it has a lot of promise.”

While more research is needed to confirm and explore the findings, there are several ways napping could reduce the risk of heart attacks, experts said.

“Napping may help deal with the stress of daily living,” said Michael Twery, who directs the National Heart Lung and Blood Institute’s National Center on Sleep Disorders Research. “Another possibility is that it is part of the normal biological rhythm of daily living. The biological clock that drives sleep and wakefulness has two cycles each day, and one of them dips usually in the early afternoon. It’s possible that not engaging in napping for some people might disrupt these processes.”

Researchers have long known that countries such as Greece’ Italy and Spain’ where people commonly take siestas’ have lower rates of heart disease than would be expected. But previous studies that attempted to study the relationship between naps and heart disease have produced mixed results. The new study is first to try to fully account for factors that might confuse the findings’ such as physical activity’ diet and other illnesses.

### Sample answer(s):

*Whereas principles of napping attribute to heart disease and coronary mortality, the significance of a siesta would relate to not only death but also stress and adults, so as not to undermine the implications of a biological clock, normal rhythm, and illnesses as well as reducing heart attacks. (48 words)*

*Although more research is needed, some studies show that a regular midday siesta could reduce the probability of death caused by heart disease, by helping to deal with stress and biological rhythm of daily living. (35 words)*

*Although previous attempts to study the relationship between naps and heart disease have yielded mixed results, a new study on this subject, the biggest and best examination to date, has found that a regularly midday siesta can lower the possibility of coronary diseases, by firstly trying to fully account for factors that might cause confusion on the previous findings. (59 words)*



## 20. Tree-Ring Dating – Dendrochronology

Here's how tree-ring dating, known to scientists as dendrochronology (from the Greek roots Dendron = tree, and Chronos = time), works. If you cut a tree down today, it's straightforward to count the rings inwards, starting from the tree's outside (corresponding to this year's growth ring), and thereby to state that the 177th ring from the outermost one towards the center was laid down in the year 2005 minus 177, or 1828. However, the widths of tree growth rings vary from year to year, depending on the rain or drought conditions in each year.

Hence the sequence of the rings in a tree cross-section is like a message in Morse code formerly used for sending telegraph messages; dot-dot-dash-dot-dash in the Morse code' wide-wide-narrow-wide-narrow in the tree ring sequence. Actually' the tree ring sequence is even more diagnostic and richer in information than the Morse code' because trees actually contain rings spanning many different widths' rather than the Morse code choice between dot and dash.

Tree-ring specialists (known as dendrochronologists) proceed by noting the sequence of wider and narrower rings in a tree cut down in a known recent year, and also noting the sequences in beams from trees cut down at various times in the past. They then match up and align the tree ring sequences with the same diagnostic wide/narrow patterns from different beams.

In that way, dendrochronologists have constructed tree-ring records extending back for thousands of years in some parts of the world. Each record is valid for a geographic area whose extent depends on local weather patterns because weather and hence tree growth patterns vary with location.

A bonus of dendrochronology is that the width and substructure of each ring reflect the amount of rain and the season at which the rain fell during that particular year. Thus, tree ring studies also allow one to reconstruct the past climate, e.g., a series of wide rings means a very wet period, and a series of narrow rings means a drought.

### Sample answer(s):

*Whereas principles of tree-ring dating attribute to the sequence and the widths of rings, the significance of dendrochronology would relate to not only rain but also droughts and the substructure, so as not to undermine the implications of weather conditions, growth rings, and wide/narrow patterns as well as beams. (49 words)*

*Dendrochronology is a scientific method of dating based on the construction and analysis of patterns of tree rings and it can help to reconstruct the past climate for a geographic area. (31 words)*

*By studying diagnostic and rich information recorded by a tree ring and noting the Morse-like sequence of wider and narrower rings, tree ring experts, dendrochronologists, have gained knowledge of not only the year the tree was laid down, but also the past climate and local weather patterns as the widths of tree growth rings depend on the rain or drought conditions. (61 words)*

## 21. The Khoikhoi

San, people of southern Africa, consisting of several groups and numbering over 85,000 in all. They are generally short in stature; their skin is yellowish brown in color, and they feature prominent cheekbones. The San have been called Bushmen by whites in South Africa, but the term is now considered derogatory. Although many now work for white settlers, about half are still nomadic hunters and gatherers of wild food in desolate areas like the Kalahari semi-desert, which stretches between today's Nation States of Botswana, Namibia and South Africa. Their social unit is the small hunting band; larger organizations are loose and temporary. Grass huts, caves and rock shelters are used as dwellings. They possess only what they can carry, using poisoned arrowheads to fell game and transporting water in ostrich-egg shells. The San have a rich folklore, are skilled in drawing, and have a remarkably complex language characterized by the use of click sounds, related to that of the Khoikhoi. For thousands of years the San lived in southern and central Africa, but by the time of the Portuguese arrival in the 15th cent., they had already been forced into the interior of southern Africa. In the 18th and 19th cent., they resisted the encroachment on their lands of Dutch settlers, but by 1862 that resistance had been crushed.

### Sample answer(s):

*Whereas principles of southern African people attribute to short stature and yellowish brown skin, the significance of the San would relate to not only hunters but also gatherers and desolate areas, so as not to undermine the implications of wild food, a rich folklore, and a complex language as well as resistance. (52 words)*

*San, short Southern African people with yellowish brown skin color and prominent cheekbones, are living in primitive ways and small hunting bands previously lived in southern and central Africa. (29 words)*

*Although the San people who are generally short in stature and have yellowish brown skin and prominent cheekbones lived in southern and central Africa for thousands of years in small hunting groups, they had been forced into the interior of southern Africa by the time of the Portuguese arrival in the 15<sup>th</sup> century. (53 words)*

## 22. Computer Programming

Consider the current situation: Like their counterparts in the United States, engineers and technicians in India have the capacity to provide both computer programming and innovative new technologies. Indian programmers and high-tech engineers earn one-quarter of what their counterparts earn in the United States. Consequently, India is able to do both jobs at a lower dollar cost than the United States: India has an absolute advantage in both. In other words, it can produce a unit of programming for fewer dollars than the United States, and it can also produce a unit of technology innovation for fewer dollars. Does that mean that the United States will lose not only programming jobs but innovative technology jobs, too? Does that mean that our standard of living will fall if the United States and India engage in international trade?

David Ricardo would have answered no to both questions—as we do today. While India may have an absolute advantage in both activities, that fact is irrelevant in determining what India or the United States will produce. India has a comparative advantage in doing programming in part because such activity requires little physical capital. The flip side is that the United States has a comparative advantage in technology innovation partly because it is relatively easy to obtain capital in this country to undertake such long-run projects. The result is that Indian programmers will do more and more of what U.S. programmers have been doing in the past. In contrast, American firms shift to more and more innovation. The United States will specialize in technology innovation; India in programming. The business managers in each country will opt to specialize in activities in which they have a comparative advantage. As in the past, the U.S. economy will continue to concentrate on what are called the “most best” activities.

### Sample answer(s):

*Whereas principles of computer programming attribute to innovative new technologies and fewer dollars, the significance of a comparative advantage would relate to not only programmers but also innovation, so as not to undermine the implications of little physical capital, high-tech engineers, and programming jobs. (44 words)*

*What a country will engage in international trade depends on its comparative advantage, so India will do more computer programming due to its comparative disadvantage of obtaining physical capital while the United State will engage in capital-intensive technology innovation, though India can do both at lower costs. (47 words)*

*While India can provide both computer programming and innovative new technologies at lower prices in comparison with the United States, it is argued that the U.S. has a comparative advantage in technology innovation activities since they are capital-intensive and this will lead business managers in both countries to opt for specialized activities that each country has a comparative advantage in. (60 words)*

## 23. Tourism Industry

Jobs generated by Travel & Tourism are spread across the economy - in retail, construction, manufacturing and telecommunications, as well as directly in Travel & Tourism companies. These jobs employ a large proportion of women, minorities and young people; are predominantly in small and medium sized companies; and offer good training and transferability. Tourism can also be one of the most effective drivers for the development of regional economies. These patterns apply to both developed and emerging economies.

There are numerous good examples of where Travel & Tourism is acting as a catalyst for conservation and improvement of the environment and maintenance of local diversity and culture. Travel & Tourism creates jobs and wealth and has tremendous potential to contribute to economically, environmentally and socially sustainable development in both developed countries and emerging nations. It has a comparative advantage in that its start up and running costs can be low compared to many other forms of industry development is also often one of the few realistic options for development in many areas. Therefore, there is a strong likelihood that the Travel & Tourism industry will continue to grow globally over the short to medium term.

### **Sample answer(s):**

*Whereas principles of the travel industry attribute to regional economies and creating jobs, the significance of tourism would relate to not only local diversity but also culture and wealth, so as not to undermine the implications of conserving the environment, developed and emerging economies, and growing globally. (47 words)*

*Travel and tourism industry improves the development of regional economies and maintenance of the environment and culture and it will continue to grow in the short to medium term because of its comparatively low starting and running costs. (38 words)*

*Not only does the tourism industry create jobs that are spread in various industries, but also it acts as a catalyst for conserving and improving the environment as well as maintaining of local diversity and culture for it has a comparative advantage of low startup and running costs which enhances the likelihood that it will continue to grow globally in short and medium run. (64 words)*

## 24. Theory of Resonance

The history of marketers seeking the advice of physicists is a short one, but an understanding of the Theory of Resonance may give communications experts the edge. Resonance Theory explains the curious phenomenon of how very small pebbles dropped into a pond can create bigger waves than a large brick. The brick makes a decent splash but its ripples peter out quickly. A tiny pebble dropped into the same pond, followed by another then another, then another, all timed carefully, will create ripples that build into small waves.

As Dr. Carlo Contaldi, a physicist at Imperial College London, explains, a small amount of energy committed at just the right intervals - the 'natural frequency' - creates a cumulatively large effect.

Media consultant Paul Bay believes that just as with pebbles in a pond, a carefully choreographed and meticulously timed stream of communication will have a more lasting effect than a sporadic big splash during prime time TV breaks.

Innocent is testament to the power of pebbles. Until last year, the maker of smoothies had never advertised on TV, instead drip-feeding the market with endless ingenious marketing ploys - from annotating its drinks labels with quirky messages to hosing its own music festival, Fruitstock. The company sent a constant stream of messages rather than communicating through the occasional big and expensive noise.

So whether you're trying to make waves in the laboratory or in the media, the people in white coats would advise a little and often. A big budget is not the prerequisite of success.

### **Sample answer(s):**

*Whereas principles of Resonance Theory attribute to small pebbles and bigger waves, the significance of ingenious marketing ploys would relate to not only large but also lasting effects and right intervals, so as not to undermine the implications of the stream of communication, TV breaks, and the media as well as the market. (53 words)*

*Resonance theory, which explains that very small pebbles dropped into a pond can create bigger waves than a large brick, could also be applied to media and a carefully choreographed and meticulously timed stream of communication will create a more cumulative and lasting effect than a big occasional propaganda. (49 words)*

## 25. Anti-Bullying Project

Spurred by the sense that disorderly behavior among students in South Euclid was increasing, the school resource officer (SRO) reviewed data regarding referrals to the principal's office. He found that the high school reported thousands of referrals a year for bullying and that the junior high school had recently experienced a 30 percent increase in bullying referrals. Police data showed that juvenile complaints about disturbances, bullying, and assaults after school hours had increased 90 percent in the past 10 years.

A researcher from Kent State University (Ohio) conducted a survey of all students attending the junior high and high school. Interviews and focus groups were conducted with students—identified as victims or offenders—teachers, and guidance counselors. Finally, the South Euclid Police Department purchased a Geographic Information System to conduct crime incident mapping of hotspots within the schools. The main findings pointed to four primary areas of concern: the environmental design of the school; teacher knowledge of and response to the problem; parental attitudes and responses; and student perspectives and behaviors.

The SRO worked in close collaboration with a social worker and the university researcher. They coordinated a Response Planning Team comprising many stakeholders that was intended to respond to each of the areas identified in the initial analysis. Environmental changes included modifying the school schedule and increasing teacher supervision of hotspots. Counsellors and social workers conducted teacher training courses in conflict resolution and bullying prevention. Parent education included mailings with information about bullying, an explanation of the new school policy, and a discussion about what could be done at home to address the problems. Finally, student education included classroom discussions between homeroom teachers and students, as well as assemblies conducted by the SRO. The SRO also opened a substation next to a primary hotspot. The Ohio Department of Education contributed by opening a new training center to provide a non-traditional setting for specialized help.

The results from the various responses were dramatic. School suspensions decreased 40 percent. Bullying incidents dropped 60 percent in the hallways and 80 percent in the gym area. Follow-up surveys indicated that there were positive attitudinal changes among students about bullying and that more students felt confident that teachers would take action when a problem arose. Teachers indicated that training sessions were helpful and that they were more likely to talk about bullying as a serious issue. Parents responded positively, asking for more information about the problem in future mailings. The overall results suggest that the school environments were not only safer, but that early intervention was helping at-risk students succeed in school.

### **Sample answer(s):**

*Whereas principles of bullying prevention attribute to victims and offenders, the significance of disorderly behavior would relate to not only bullying but also assaults and disturbances, so as not to undermine the implications of teacher supervision, parental attitudes, students perspectives, and the school schedule as well as the environmental design of schools. (52 words)*

*The SRO along with a social worker and a researcher from Kent State University coordinated a Response Planning Team constituting of different stakeholders namely teachers and parents which resulted in dramatic fall in the number of bullying incidents and disorderly behavior, and ultimately makes school environments safer, as early intervention helped at-risk students to succeed in school. (57 words)*

## 26. War of Talent – The Demand for Talent

Some of this panic is overdone—and linked to the business cycle: there was much ado about “a war for talent” in America in the 1990s, until the dotcom bubble burst. People often talk about shortages when they should really be discussing price. Eventually, supply will rise to meet demand and the market will adjust. But, while you wait, your firm might go bust. For the evidence is that the talent shortage is likely to get worse.

Nobody really disputes the idea that the demand for talent-intensive skills is rising. The value of “intangible” assets—everything from skilled workers to patents to know-how—has ballooned from 20% of the value of companies in the S&P 500 to 70% today. The proportion of American workers doing jobs that call for complex skills has grown three times as fast as employment in general. As other economies move in the same direction, the global demand is rising quickly.

As for supply, the picture in much of the developed world is haunted by demography. By 2025 the number of people aged 15-64 is projected to fall by 7% in Germany, 9% in Italy and 14% in Japan. Even in still growing America, the imminent retirement of the baby-boomers means that companies will lose large numbers of experienced workers in a short space of time (by one count half the top people at America’s 500 leading companies will go in the next five years). Meanwhile, two things are making it much harder for companies to adjust.

The first is the collapse of loyalty. Companies happily chopped out layers of managers during the 1990s; now people are likely to repay them by moving to the highest bidder. The second is the mismatch between what schools are producing and what companies need. In most Western countries schools are churning out too few scientists and engineers—and far too many people who lack the skills to work in a modern economy (that’s why there are talent shortages at the top alongside structural unemployment for the low-skilled).

### Sample answer(s):

*Whereas principles of a war of talent attribute to intangible assets and skilled workers, the significance of the talent shortage would relate to not only supply but also demand and the market, so as not to undermine the implications of complex skills, structural unemployment, and the collapse of loyalty, as well as talent-intensive skills. (54 words)*

*Talent shortage is likely to get worse globally in the future because of the imminent retirement of baby-boomers, the collapse of loyalty and the mismatch between what schools are producing and what companies need. (34 words)*

*While the demand for talent-intensive skills is on the rise and the issue of “war of talent” and value of intangible assets are indisputable, the collapse of loyalty and the mismatch between what is needed by the companies and what is thought in schools in addition to the retirement of baby-boomers are worsening this situation. (55 words)*

## 27. Marshmallow Test

They call it the “marshmallow test.” A four- to six-year-old-child sits alone in a room at a table facing a marshmallow on a plate. The child is told: “If you don’t eat this treat for 15 minutes you can have both it and a second one.” Kids on average wait for five or six minutes before eating the marshmallow. The longer a child can resist the treat has been correlated with higher general competency later in life.

Now a study shows that ability to resist temptation isn’t strictly innate—it’s also highly influenced by environment.

Researchers gave five-year-olds used crayons and one sticker to decorate a sheet of paper. One group was promised a new set of art supplies for the project—but then never received it. But the other group did receive new crayons and better stickers.

Then both groups were given the marshmallow test. The children who had been lied to waited for a mean time of three minutes before eating the marshmallow. The group that got their promised materials resisted an average of 12 minutes.

Thus, the researchers note that experience factors into a child’s ability to delay gratification. When previous promises have been hollow, why believe the next one?

### **Sample answer(s):**

*Whereas principles of the marshmallow test attribute to resisting treats and higher competency, the significance of delaying gratification would relate to not only environment but also experience and temptation, so as not to undermine the implications of researchers, children, and resistance. (41 words)*

*A study shows that children’s ability to resist temptation is highly influenced by experiences and that children who get their promises before could delay gratification longer. (26 words)*

*The “marshmallow test” explains that the longer a child can resist a temptation, positively correlates with higher general competency in life, and this ability is not strictly innate, yet the child’s previous experience factors into the ability to delay the gratification. (41 words)*



## 28. Crisis in British Archaeology

Human remains are a fundamental part of the archaeological record, offering unique insights into the lives of individuals and populations in the past. Recently a new set of challenges to the study of human remains has emerged from a rather unexpected direction: the British government revised its interpretation of nineteenth-century burial legislation in a way that would drastically curtail the ability of archaeologists to study human remains of any age excavated in England and Wales. This paper examines these extraordinary events and the legal, political and ethical questions that they raise.

In April 2008 the British government announced that, henceforth, all human remains archaeologically excavated in England and Wales should be reburied after a two-year period of scientific analysis. Not only would internationally important prehistoric remains have to be returned to the ground, removing them from public view, but also there would no longer be any possibility of long-term scientific investigation as new techniques and methods emerged and developed in the future. Thus, while faunal remains, potsherds, artifacts and environmental samples could be analyzed and re-analyzed in future years, human remains were to be effectively removed from the curation process. Archaeologists and other scientists were also concerned that this might be the first step towards a policy of reburying all human remains held in museum collections in England and Wales including prehistoric, Roman, Saxon, Viking and Medieval as well as more recent remains.

### Sample answer(s):

*Whereas principles of human remains attribute to scientific investigations and burial legislations, the significance of archaeological records would relate to not only reburial but also excavation, so as not to undermine the implications of the curation process, museum collections, and reburying policies. (42 words)*

*The British government's announcement that all human remains archaeologically excavated in England and Wales need reburying, will negatively affect the study of human remains. (24 words)*

*British government revised its interpretation of burial legislation that all human remains should be reburied after a two-year period of scientific analysis and further investigation is impossible which cause concerns between archaeologists and other scientists, since they are worried that this might be the first step towards a policy of reburying other human remains and prehistoric artefacts in England and Wales museums. (62 words)*

*The British government's announcement, not only does negatively affect the study of human remains by archaeologists, but also concerns them that this might be the first action for reburying all human remains that are held in museums across England and Wales. (41 words)*

## 29. Geothermal Energy in Africa

What is the solution for nations with increasing energy demands, hindered by frequent power cuts and an inability to compete in the international oil market? For East Africa at least, experts think geothermal energy is the answer. More promising still, the Kenyan government and international investors seem to be listening. This is just in time according to many, as claims of an acute energy crisis are afoot due to high oil prices, population spikes and droughts.

Currently, over 60% of Kenya's power comes from hydroelectric sources but these are proving increasingly unreliable as the issue of seasonal variation is intensified by erratic rain patterns. Alternative energy sources are needed; and the leading energy supplier in Kenya, Kenya Electricity Generating Company (KenGen), hopes to expand its geothermal energy supply from 13% to 25 % of its total usage by 2020. The potential of geothermal energy in the region was first realized internationally by the United Nations Development Program, when geologists observed thermal anomalies below the East African Rift system. Locals have been utilizing this resource for centuries; using steam vents to create the perfect humidity for greenhouses, or simply to enjoy a swim in the many natural hot lakes.

Along the 6000 km of the rift from the Red Sea to Mozambique, geochemical, geophysical and heat flow measurements were made to identify areas suitable for geothermal wells. One area lies next to the extinct Olkaria volcano, within the Hell's Gate National Park, and sits over some of the thinnest continental crust on Earth. This is a result of the thinning of the crust by tectonic stretching, causing hotter material below the Earth's surface to rise, resulting in higher temperatures. This thin crust was ideal for the drilling of geothermal wells' reaching depths of around 3000 m, where temperatures get up to 342°C, far higher than the usual temperature of 90°C at this depth. Water in the surrounding rocks is converted to steam by the heat. The steam can be used to drive turbines and produce electricity. Wells like those in Olkaria operate by pumping cold water down to permeable "geothermal reservoir" rocks, causing steam to rise back up a nearby production well. Care must be taken with the rate at which cold water is added so as to not permanently cool the source rock.

### Sample answer(s):

*Whereas principles of geothermal energy attribute to increased energy demands and an energy crisis, the significance of geothermal wells would relate to not only steam but also electricity and power cuts, so as not to undermine the implications of geochemical, geophysical, and heat flow measurements as well as alternative energy sources. (51 words)*

*Geothermal energy will be used as alternative electric sources to meet increasing energy demands in East African countries due to the geological advantages, thermal anomalies below the East African Rift system. (31 words)*

*As the demand for electricity has risen and the inability of East Africa to compete in international oil markets in addition to unreliable hydroelectric sources of energy, KenGen, a leading power company in Kenya, hopes to expand its geothermal energy by utilizing the thermal anomalies below the East African Rift system by drilling geothermal wells to produce steams that can be used to drive turbines. (65 words)*

### 30. Language Development

What is text/written language anyway? It's an ancient IT for storing and retrieving information. We store information by writing it, and we retrieve it by reading it.

Six thousand to 10,000 years ago, many of our ancestors' hunter-gatherer societies settled on the land and began what's known as the agricultural revolution. That new land settlement led to private property and increased production and trade of goods, generating a huge new influx of information. Unable to keep all this information in their memories, our ancestors created systems of written records that evolved over millennia into today's written languages.

But this ancient IT is already becoming obsolete. Text has run its historic course and is now rapidly getting replaced in every area of our lives by the ever-increasing array of emerging ITs driven by voice, video, and body movement rather than the written word. In my view, this is a positive step forward in the evolution of human technology, and it carries great potential for a total positive redesign of K-12 education.

**Sample answer(s):**

*Whereas principles of written language attribute to storing and retrieving information, the significance of the agricultural evolution would relate to not only texts but also education, so as not to undermine the implications of systems of written records, human technology, and memories as well as reading. (46 words)*

*Written language, which can be defined as an ancient method of storing and retrieving information, is quickly replaced by the modern information technologies, which involve more audio, visual or kinetic elements, and the writer consider this as a positive movement. (40 words)*

*By the agricultural revolution and huge influx of information, our ancestors created systems of written/text language for storing and retrieving information that evolved over thousands of years, which is now becoming obsolete and getting replaced by the ever-increasing ITs driven by voice, video and body movement and can be viewed as a positive movement. (54 words)*

## 31. Greenhouse Gases

When an individual drives a car, heats a house, or uses an aerosol hairspray, greenhouse gases are produced. In economic terms, this creates a classic negative externality. Most of the costs (in this case, those arising from global warming) are borne by individuals other than the one making the decision about how many miles to drive or how much hairspray to use. Because the driver (or sprayer) enjoys all the benefits of the activity but suffers only a part of the cost, that individual engages in more than the economically efficient amount of the activity. In this sense, the problem of greenhouse gases parallels the problems that occur when someone smokes a cigarette in an enclosed space or litters the countryside with fast-food wrappers. If we are to get individuals to reduce production of greenhouse gases to the efficient rate, we must somehow induce them to act as though they bear all the costs of their actions. The two most widely accepted means of doing this are government regulation and taxation, both of which have been proposed to deal with greenhouse gases.

### Sample answer(s):

*Whereas principles of greenhouse gases attribute to global warming, the significance of reducing greenhouse gases would relate to not only taxation but also government regulations, so as not to undermine the implications of bearing the costs, driving cars, smoking, and efficient rates as well as actions. (46 words)*

*Greenhouse gasses are produced in our daily activities and could create negative externality, which means that most of the cost behind these actions are shouldered by a vast majority of innocent people, and therefore such behaviors can only be regulated through government regulation and taxation. (45 words)*

*When an individual produces greenhouse gases by driving a car, heating a house or even using an aerosol hair spray, creates negative externality, and the costs are borne by individuals other than the one causing them, and for tackling this problem, government regulation and taxation are said to be the most widely accepted means. (54 words)*

## 32. Australian Indigenous Food

In its periodic quest for culinary identity, Australia automatically looks to its indigenous ingredients, the foods that are native to this country. “There can be little doubt that using an indigenous product must qualify a dish as Australian”, notes Stephanie Alexander. Similarly, and without qualification, Cherikoff states that “A uniquely Australian food culture can only be based upon foods indigenous to this country”, although, as Craw remarks, proposing Australian native foods as national symbols rely more upon their association with ‘nature’ and geographic origin than on common usage. Notwithstanding the lack of justification for the premise that national dishes are, of necessity, founded on ingredients native to the country—after all, Italy’s gastronomic identity is tied to the non-indigenous tomato, Thailand’s to the non-indigenous chili—the reality is that Australians do not eat indigenous foods in significant quantities. The exceptions are fish, crustaceans and shellfish from oceans, rivers and lakes, most of which are unarguably unique to this country. Despite valiant and well-intentioned efforts today at promoting and encouraging the consumption of native resources, bush foods are not harvested or produced in sufficient quantities for them to be a standard component of Australian diets, nor are they generally accessible. Indigenous foods are less relevant to Australian identity today than lamb and passionfruit, both initially imported and now naturalized.

### Sample answer(s):

*Whereas principles of Australian indigenous food attribute to culinary identity and native foods, the significance of Australian diets would relate to not only ingredients but also dishes and quantities, so as not to undermine the implications of the consumption of native resources, products, and harvests. (45 words)*

*Despite the effort to associate traditional Australian food ingredients with national diets, it is impossible to make such link because those indigenous food are produced and consumed in insufficient quantities, and in fact imported foods are much more representative of what the nation eats. (44 words)*

*Although well-intentioned attempts have been made to promote and encourage the consumption of Australian indigenous food and create a culinary identity, they are not harvested or produced adequately nor are they generally at hand, yet what symbolizes the national dishes and Australian car diets are imported foods. (46 words)*

### 33. Upper Paleolithic People

The ways of life of Upper Paleolithic people are known through the remains of meals scattered around their hearths, together with many tools and weapons and the debris left over from their making. The people were hunter-gatherers who lived exclusively from what they could find in nature without practicing either agriculture or herding. They hunted the bigger herbivores, while berries, leaves, roots, wild fruit and mushrooms probably played a major role in their diet. Their hunting was indiscriminate, perhaps because so many animals were about that they did not need to spare pregnant females or the young. In the cave of Enlène, for example, many bones of reindeer and bison fetuses were found. Apparently, Upper Paleolithic people hunted like other predators and killed the weakest prey first. They did, however, sometimes concentrate on salmon runs and migrating herds of reindeer.

Contrary to popular beliefs about 'cave men', Upper Paleolithic people did not live deep inside caves. They rather chose the foot of cliffs, especially when an overhang provided good shelter. On the plains and in the valleys, they used tents made from hides of the animals they killed. At times, on the Great Russian plains, they built huts with huge bones and tusks collected from the skeletons of mammoths.

(Men hunted mostly with spears; the bow and arrow was probably not invented until the Magdalenian period that came at the end of the Upper Paleolithic. Tools and weapons, made out of wood or reindeer antlers, often had flint cutting edges. Flint knappers were skillful and traditions in flint knapping were pursued for thousands of years. This continuity means that they must have been carefully taught how to find good flint nodules and how to knap them in order to make knives, burins (chisel-like tools) or scrapers, which could be used for various purposes.)

#### **Sample answer(s):**

*Whereas principles of Upper Paleolithic people attribute to the remains of meals and their hearths, the significance of hunter-gatherers would relate to not only tools but also weapons and debris, so as not to undermine the implications of agriculture, herding, shelter, and caves as well as animals. (47 words)*

*Upper Paleolithic People are hunter-gathers who, by definition, lived exclusively from what they could find in nature without practicing either agriculture or herding, and instead of living deep inside in caves, they live in the tents made from the animals they hunted. (42 words)*

*Upper Paleolithic people were hunter-gatherers and led their lives exclusively through what they found in nature or by indiscriminate hunting of animals and sometimes by fishing salmons, and although many people believe that Upper Paleolithic lived inside caves, they preferred foot of cliffs and chose tents when they were on the plains and in the valleys that were made from the skin of the animals they hunted. (67 words)*

## 34. Compulsory Voting

Compulsory voting is often suggested as a solution to the problem of declining turnout. But how are individuals and countries affected by compulsory voting beyond boosting electoral participation? Shane Singh investigates the social, economic, and political consequences of compelling citizens to vote.

There has been a lot of discussion about compulsory voting these days. In the United Kingdom, in particular, as voter turnout rates have declined, many commentators and politicians have begun advocating for mandatory electoral participation. Those in favor of compulsory voting often adduce the importance of participation among all segments of society. Citizens of democracies are forced to do many things in the interest of the public good, they maintain, including serving on juries and educating their children, and full participation serves the country as a whole. Those opposed to compulsory voting often argue that, from a democratic theory perspective, the right to vote implicitly includes a right not to vote.

Such a right of abstention, they argue, is more important than any societal good that might accompany high turnout. In fact, opponents of compulsory voting often contend that the country may be better off if those who are disinclined to vote are not pushed to participate in public affairs. Regardless of whether one of these sets of arguments is more persuasive than the other, compulsory voting is commonly used around the world. Several European democracies mandate voting, as do Australia and most of the countries in Latin America. By evaluating results from these countries, it is possible to assess the mechanics and effects of compulsory voting.

### Sample answer(s):

*Whereas principles of compulsory voting attribute to declining turnout and boosting electoral participation, the significance of mandated voting would relate to not only abstention but also citizens, so as not to undermine the implications of high turnouts, public affairs, political consequences, and democracies. (43 words)*

*Although compulsory voting is a suggested solution to the problem of declining turnouts, those who opposed to it often argue that the right to vote implicitly include the right of abstention which is more important than any societal good that might accompany high turnout, however, it is possible to assess the mechanics and effects of compulsory voting by evaluation of results from several European countries and Australia that mandate voting. (70 words)*

### 35. Skipping Breakfast

Skipping breakfast seems a simple way of losing weight or saving time while getting the children ready for school or rushing off to work. But it can also be a sign of an unhealthy lifestyle with potentially dangerous consequences, including a higher risk of premature death.

According to a study, adults and teenagers who miss the first meal of the day are less likely to look after their health. They tend to smoke more, drink more alcohol and take less exercise than those who do eat. Those who skip food in the morning are also more likely to be fatter and less well-educated, meaning they find it harder to get a job.

Researcher Dr. Anna Keski-Rahkonen said: “Smoking, infrequent exercise, a low level of education, frequent alcohol use and a high body mass index were all associated with skipping breakfast in adults and adolescents. Our findings suggest this association exists throughout adulthood. ‘Individuals who skip breakfast may care less about their health than those who eat breakfast.’”

Previously, experts assumed that missing breakfast — often called ‘the most important meal of the day’ — was simply the marker of a hectic life or a way to try to lose weight. But Dr. Keski-Rahkonen, who led the study at Helsinki University, said the results revealed starting the day without food suggests an unhealthy lifestyle.

#### **Sample answer(s):**

*Whereas principles of skipping breakfast attribute to an unhealthy lifestyle and premature death, the significance of missing breakfast would relate to not only smoking but also alcohol use and infrequent exercise, so as not to undermine the implications of a low level of education and a high body mass index. (50 words)*

*Although skipping breakfast seems a simple way of losing weight and was the marker of a hectic life, a study has revealed that more smoking and drinking, less exercise, being fatter and less educated as well as higher body mass index are all associated to the adults who miss ‘the most important meal of the day’, and this association exists during adulthood. (62 words)*



## 36. Carbon Footprint

Major athletic events around the globe — from the 2014 Sochi Olympics to an annual powerboat race in Norwegian fiords—are striving to neutralize their carbon footprint as part of a worldwide climate network, the United Nations Environment Program (UNEP) said today

The sporting events are the latest participants to join the network, and are particularly important for inspiring further global action on the environment, said Achim Steiner, UNEP Executive Director.

Organizers of the 2014 Sochi Olympic and Paralympic Winter Games—to be held in a unique natural setting between the shores of the Black Sea and the soaring snow-capped Caucasus Mountains — say they will put an estimated \$1.75 billion into energy conservation and renewable energy

That investment will be dedicated to improving transport infrastructure, offsetting greenhouse gas emissions from the use of electricity, air travel and ground transportation, the reforestation of Sochi National Park and the development of green belts in the city.

### Sample answer(s):

*Whereas principles of a worldwide climate network attribute to the environment and global actions, the significance of reducing carbon footprint would relate to not only energy conservation but also renewable energy, so as not to undermine the implications of improving transport infrastructure, greenhouse gas emissions, and air travel, as well as reforestation. (55 words)*

*UNEP reported that sporting events, as the latest participants to be involved in the world-wide climate network aiming to neutralize the carbon effects on the globe, provide inspiration for further global action on the environment by investing on energy conservation, renewable energy, improvements in transportation infrastructure, the use of electricity as compensation for greenhouse gas emissions and the development of green belts in the city. (65 words)*

### 37. Office Space

The notion that office space has a role in promoting or inhibiting performance is backed up by solid research. A recent study conducted by Harvard University and Massachusetts General Hospital showed that improvements to the physical surroundings of workers impacted on productivity not just because the working environment was more attractive, but because the changes made cared for. A Swedish research paper revealed a strong link between the type of office an employee worked in and their overall job action and health. Various findings have emerged a result of studies such as this. Pot plants and greenery can apparently have a real impact on psychological well-being. Those who work in private room tend to be in better health than workers in open-plan offices. Sufficient light can reduce sickness among workers and increase productivity, and an attractive office can make workers feel more cared for and therefore more loyal to their company. Mo these points make good rational Sense. But some companies aren't content sim y to increase the health, productivity and contentment of their employees. Pioneers such as Google, Walt Disney and Dyson have tilled to create offices that will do everything from promoting collaboration between workers to stimulating their creative juices. "Environment, both physical and cultural, can make or break creativity", says Kursty Groves, author of I Wish I Worked There! A Look Inside the Most Creative Spaces in Business. "Stimulating spaces expose the mind to a variety of stimuli — planned or random, in order to encourage people to think differently. Reflective spaces promote the filtering of information into the brain, slowing it to make connections. An environment which encourages a team to build trust and to play freely is an essential ingredient for innovation."

#### Sample answer(s):

*Whereas principles of physical surroundings attribute to creativity and innovation, the significance of office space would relate to not only productivity but also collaboration and performance, so as not to undermine the implications of loyalty, health, psychological well-being, reducing sickness, and contentment as well as the overall job action. (48 words)*

*A recent study conducted by Harvard University and Massachusetts General Hospital showed that there is a strong link between office space and performance of employees, as physical surroundings plays an important role in boosting productivity and job satisfaction which has caused pioneers such as Google, Walt Disney and Dyson to create healthy offices that enhance their creativity, innovation and psychological well-being. (61 words)*

*Whereas underlying principles of working environment types and physical surroundings improvements pertain to performance, the significance of psychological well-being relates with not only innovation but also physical and cultural environment, so as not to undermine the crucial implications of creativity, light, Pot plants, as well as job action and health. (50 words)*

### 38. Wright Brothers and Flight

Wright brothers and flight A Smash PTE note: Unfortunately, I cannot find the exact passages on the Internet, but below are my memories which are very close the meaning of the real test question.

The Wrights dated the origin of their interest in flight to 1878, when their father had presented them with a toy helicopter. News accounts of the death of the German gliding pioneer Otto Lilienthal in an August 1896 glider crash reawakened their interest and led to a search for trustworthy information on aeronautics.

There are three important elements in designing an aircraft. The first two are wings and structure, which have been well developed. It is a control system that Wright brothers have realized that is essential to achieve a successful flight. But such formidable problem has been solved and makes them a breakthrough.

Wright brothers are flying around the Statue of Liberty then up the Hudson River to Grant's Tomb and back. Over a million Americans see this fly and they became the celebrity.

#### Sample answer(s):

*Whereas principles of the Wright brothers attribute to aeronautics and planes, the significance of designing an aircraft would relate to not only its wings but also structure and control system, so as not to undermine the implications of successful flights and gliders. (42 words)*

*Whereas underlying principles of developing aircraft and gliders pertain to machines, the significance of flying problems relates with not only wind tunnel but also designs and a full-size model, so as not to undermine the crucial implications of gasoline-powered motors, Wright brothers, as well as making bicycles. (47 words)*

*Whereas Wright brothers in the United States were developing aircraft, others designed and built a series of gliders to test their various ideas on a flying machine, and they even built their gasoline-powered motor using a wind tunnel and a full-size model. (42 words)*

### 39. The New Museology

What is museology? A simple definition might be that it is the study of museums, their history and underlying philosophy, the various ways in which they have, in the course of time, been established and developed, their avowed or unspoken aims and policies, their educative or political or social role. More broadly conceived, such a study might also embrace the bewildering variety of audiences- visitors, scholars, art lovers, children- at whom the efforts of museum staff are supposedly directed, as well as related topics such as the legal duties and responsibilities placed upon (or incurred by) museums, perhaps even some thought as to their future.

Seen in this light, museology might appear at first sight a subject so specialized as to concern only museum professionals, who by virtue of their occupation are more or less obliged to take an interest in it.

In reality, since museums are almost, if not quite as old as civilization itself, and since the plethora of present-day museums embraces virtually every field of human endeavor- not just art, or craft, or science, but entertainment, agriculture, rural life, childhood, fisheries, antiquities, automobiles: the list is endless- it is a field of enquiry so broad as to be a matter of concern to almost everybody.

#### **Sample answer(s):**

*Whereas principles of museology attribute to history and museums, the significance of human endeavor would relate to not only agriculture but also automobiles and antiques, so as not to undermine the implications of entertainment, rural life, art, civilization, and childhood as well as fisheries. (44 words)*

*Museology is a specialized subject investigating various aspects of museums, which seemingly only the professionals are interested in, yet, since its intimacy with every field of human endeavor from past to present, it shall not be neglected by ordinary people. (45 words)*

*Whereas underlying principles of museology and professionals pertain to their history, the significance of civilizations relates with not only audiences but also philosophy and related topics, so as not to undermine the crucial implications of duties, responsibilities, human endeavor, rural life, as well as present-day museums. (46 words)*

## 40. Electric Cars

Although we tend to think of electric cars as being something completely modern, they were in fact some of the earliest types of motorized vehicle. At the beginning of the twentieth-century electric cars were actually more popular than cars with an internal combustion engine as they were more comfortable to ride in. However, as cars fueled by petrol increased in importance. Electric cars declined. The situation became such that electric vehicles were only used for certain specific purposes – as fork-lift trucks, ambulances and urban delivery vehicles, for example.

Although electricity declined in use in road vehicles, it steadily grew in importance as a means of powering trains. Switzerland, for example, was quick to develop an electrified train system, encouraged in this no doubt by the fact that it had no coal or oil resources of its own.

Nowadays there is renewed interest in Electricity as a means of powering road vehicles. Why is this case? Well, undoubtedly economic reasons are of considerable importance. The cost of oil has risen so sharply that there is a strong financial imperative to look for an alternative. However, there are also environmental motivations. Emissions from cars re-blamed in large part for – among other things – the destruction of the ozone layer and the resultant rise in temperatures in the Polar Regions. A desire not to let things get any worse is also encouraging research into designing effective electric transport.

### Sample answer(s):

*Whereas principles of electric cars attribute to motorized vehicles and internal combustion engines, the significance of car emissions would relate to not only electricity but also economic reasons and effective transport, so as not to undermine the implications of environmental motivations, destruction of the ozone layer, and a rise in temperatures. (51 words)*

*Electric vehicles have been around since the beginning of the twentieth century, but petrol-driven cars became more important so electric power was only used for specific purposes, such as a means of powering trains; nowadays there is a renewed interest in electric vehicles due to economic and environmental considerations, as people do not wish to let things get any worse. (61 words)*

*Whereas underlying principles of electric cars and internal combustion engines pertain to specific purposes, the significance of electricity relates with not only economic reasons but also emissions and alternatives, so as not to undermine the crucial implications of the Ozone layer destruction, petrol-driven cars, as well as effective transportations. (49 words)*

## 41. Experimental Treatment

Four years ago, Darek Fidyka was stabbed in the back, leaving his spinal cord severed, and his body from the chest down paralyzed. Now, after an experimental treatment, Fidyka has regained some feeling in his lower body and is learning to walk again.

The researchers are looking to use less invasive techniques in the future, because undergoing brain surgery to extract the olfactory tissue isn't anyone's idea of a good time, much less someone who is paralyzed.

The BBC reports that over 100 micro injections of olfactory unsheathing cells were injected into the injury site, and strips of nerve tissue from Fidyka ankle were laid across the gap in the spinal cord, in the hopes that the cells from the olfactory bulbs would encourage regrowth. A similar procedure had been successfully tested on dogs in 2012.

Now, 19 months after the operation, Fidyka has regained sensation in parts of his lower body, and after intense physical therapy is able to walk using a walker. As an added bonus, even with one olfactory bulb removed, Fidyka retained his sense of smell.

He told the BBC: "I think it's realistic that one day I will become independent. What I have learned is that you must never give up but keep fighting, because some door will open in life." The story is the subject of an episode of the BBC television program Panorama airing today at 10:35 pm in the UK. The study itself will be published in the journal Cell Transplantation at a later date, but the researchers acknowledge that as exciting as this result is, there is still a lot more work to be done.

"Our results are very encouraging," the medical team is quoted as saying in a statement. "However, our results need to be confirmed in a larger group of patients with a similar injury. In the meantime, we are investigating surgical techniques for more minimally invasive access to the olfactory bulb."

### Sample answer(s):

*Whereas principles of the experimental treatment attribute to invasive techniques and regaining sensation, the significance of the spinal cord would relate to not only cells but also paralysis, so as not to undermine the implications of the sense of smell, surgical techniques, and the olfactory bulb. (46 words)*

*The experimental treatment is proven to be successful, as the patient has regained some feeling in his lower body and is learning to walk again, and the researchers are looking to use less invasive techniques in the future, because undergoing brain surgery to extract the olfactory tissue is not a good idea, especially for someone who is paralyzed. (58 words)*

*Whereas underlying principles of patients and the paralyzed body pertain to invasive techniques, the significance of the injection relates with not only olfactory tissue but also regrowth and regaining sensation, so as not to undermine the crucial implications of the physical therapy, fighting, surgical techniques, as well as invasive access. (50 words)*

## 42. Plants Research

Plants serve as the conduit of energy into the biosphere, provide food and materials used by humans, and they shape our environment. According to Ehrhardt and Frommer, the three major challenges facing humanity in our time are food, energy, and environmental degradation. All three are plant related.

All of our food is produced by plants, either directly or indirectly via animals that eat them. Plants are a source of energy production. And they are intimately involved in climate change and a major factor in a variety of environmental concerns, including agricultural expansion and its impact on habitat destruction and waterway pollution.

What's more, none of these issues are independent of each other. Climate change places additional stresses on the food supply and on various habitats. So, plant research is instrumental in addressing all of these problems and moving into the future. For plant research to move significantly forward, Ehrhardt and Former say technological development is critical, both to test existing hypotheses and to gain new information and generate fresh hypotheses. If we are to make headway in understanding how these essential organisms function and build the foundation for a sustainable future, then we need to apply the most advanced technologies available to the study of plant life, they say.

### Sample answer(s):

*Whereas principles of the biosphere attribute to climate change and environmental concerns, the significance of agricultural expansion would relate to not only plants but also food and energy, so as not to undermine the implications of our environment, food supply, technological development, and plant life as well as a sustainable future. (51 words)*

*Plants serve as the conduit of energy into the biosphere, provide food and materials used by humans and shape our environment, but they are also strongly related to three interrelated challenges, namely food, energy and environmental degradation. (37 words)*

*Whereas underlying principles of plants and energy pertain to the biosphere, the significance of providing food relate with not only humans but also the environment and animals, so as not to undermine the crucial implications of climate change, agricultural expansion, habitat destruction, as well as waterway pollution. (47 words)*

### 43. Tourism Industry (Version 2)

The paper highlights that travel and tourism generates, directly and indirectly, a large percentage of GDP and a huge number of jobs in the world-wide economy, which can be expected to continue to grow. Jobs generated by travel and tourism are spread across the economy – in retail, construction, manufacturing, and telecommunications, as well as directly in travel and tourism companies.

Tourism jobs employ a large proportion of women, minorities and young people, are predominantly in small and medium sized companies, and offer good training and transferability.

There are numerous good examples of where travel and tourism is acting as a catalyst for conservation and improvement of the environment and maintenance of local diversity and culture. As tourism depends to a greater degree than most activities, on a wide range of infrastructure services – airports, air navigation, roads, ports, shops, restaurant, etc, it plays an important part in providing them. Tourism has a comparative advantage in that its start up and running costs can be low compared to many other forms of industry development.

**Sample answer(s):**

*Whereas principles of the economy attribute to travel and tourism, the significance of generating jobs would relate to not only retail but also construction and manufacturing, so as not to undermine the implications of telecommunications, the environment, local diversity, culture, and infrastructure services as well as industry development. (48 words)*



#### 44. Comparative Advantage (Version 2)

Consider the current situation: Like their counterparts in the United States, engineers and technicians in India have the capacity to provide both computer programming and innovative new technologies. Indian programmers and high-tech engineers earn one-quarter of what their counterparts earn in the United States. Consequently, India is able to do both jobs at a lower dollar cost than the United States: India has an absolute advantage in both. In other words, it can produce a unit of programming for fewer dollars than the United States, and it can also produce a unit of technology innovation for fewer dollars. Does that mean that the United States will lose not only programming jobs but innovative technology jobs, too?

Economist David Ricardo answers no. While India may have an absolute advantage in both activities, that fact is irrelevant in determining what India or the United States will produce. India has a comparative advantage in doing programming in part because such activity requires little physical capital. The flip side is that the United States has a comparative advantage in technology innovation partly because it is relatively easy to obtain capital in this country to undertake such long-run projects. The result is that Indian programmers will do more and more of what U.S. programmers have been doing in the past. In contrast, American firms will shift to more and more innovation.

**Sample answer(s):**

*Whereas principles of computer programming attribute to India and the United States, the significance of innovative new technologies would relate to not only engineers but also technicians and programmers, so as not to undermine the implications of a comparative advantage, physical capital, and long-run projects. (45 words)*

## 45. The Ancient Ones: The Anasazi and Their Neighbors

Here's how tree-ring dating, known to scientists as dendrochronology (from the Greek roots dendron = tree, and chronos = time), works. If you cut down a tree today, it's straightforward to count the rings inwards, starting from the tree's outside (corresponding to this year's growth ring), and thereby to state that the 177th ring from the outermost one towards the center was laid down in the year 2005 minus 177, or 1828. But it's less straightforward to attach a date to a particular ring in an ancient Anasazi wooden beam, because at first you don't know in what year the beam was cut. However, the widths of tree growth rings vary from year to year, depending on rain or drought conditions in each year. Hence the sequence of rings in a tree cross-section is like a message in the Morse code formerly used for sending telegraph messages; dot-dot-dash-dot-dash in the Morse code, wide-wide-narrow-wide-narrow in a tree ring sequence. Actually, the ring sequence is even more diagnostic and richer in information than the Morse code, because trees actually contain rings spanning many different widths, rather than the Morse code's choice between only a dot or a dash.

Tree-ring specialists (known as dendrochronologists) proceed by noting the sequence of wider and narrower rings in a tree cut down in a known recent year, and also noting the sequence in beams from trees cut down at various unknown times in the past. They then match up and align ring sequences with the same diagnostic wide/narrow patterns from different beams. For instance, suppose that this year (2005) you cut down a tree that proves to be 400 years old (400 rings), and that has an especially distinctive sequence of five wide rings, two narrow rings, and six wide rings for the 13 years from 1643 back to 1631. If you find that same distinctive sequence starting seven years from the outermost ring in an old beam of unknown felling date with 332 rings, then you can conclude that the old beam came from a tree cut down in 1650 (seven years after 1643), and that the tree began to grow in the year 1318 (332 years before 1650). You then go on to align that beam, from the tree living between 1318 and 1650, with even older beams, and you similarly try to match up tree ring patterns and find a beam whose pattern shows that it comes from a tree that was cut down after 1318 but began growing before 1318, thereby extending your tree ring record farther back into the past. In that way, dendrochronologists have constructed tree ring records extending back for thousands of years in some parts of the world. Each such record is valid for a geographic area whose extent depends on local weather patterns, because weather and hence tree growth patterns vary with location.

### Sample answer(s):

*Whereas principles of tree-ring dating attribute to counting rings and ancient wooden beams, the significance of widths would relate to not only rain but also drought conditions and ring sequences, so as not to undermine the implications of dendrochronologists, geographic areas, and local weather patterns. (45 words)*



## 46. Bicycle Brothers Make Aeroplane Work Wright

Orville and Wilbur Wright were brothers living in Dayton, Ohio. The two had started making bicycles during the 1890s and had a successful small business selling their Wright Specials for \$18 each (\$475 in today's green). This experience with building light, strong machines would prove valuable in the coming years after the brothers' interest turned to flight.

Others in the United States were also developing aircraft at the time the Wright brothers started turning their curiosity skyward. Samuel Langley had flown an unmanned steam-powered aircraft in 1896. Octave Chanute and others were flying gliders near Chicago late in the decade as well. But it wasn't until the Wright brothers started working on the matter that the "flying problem" would finally be solved.

Beginning in 1899, the brothers designed and built a series of gliders to test their various ideas on a flying machine. They constructed a wind tunnel that allowed them to test designs without having to build a full-size model. They even built their own gasoline-powered motor for their aircraft.

### Sample answer(s):

*Whereas principles of the Wright brothers attribute to bicycles and light machines, the significance of the flying problem would relate to not only aircraft but also gliders, so as not to undermine the implications of gasoline-powered motors, wind tunnels, and flight. (41 words)*



## 47. History uncovered in conserving the Rosetta Stone

When the Rosetta Stone was discovered in 1799, the carved characters that covered its surface were quickly copied. Printer's ink was applied to the Stone and white paper laid over it. When the paper was removed, it revealed an exact copy of the text—but in reverse. Since then, many copies or "facsimiles" have been made using a variety of materials. Inevitably, the surface of the Stone accumulated many layers of material left over from these activities, despite attempts to remove any residue. Once on display, the grease from many thousands of human hands eager to touch the Stone added to the problem.

An opportunity for investigation and cleaning the Rosetta Stone arose when this famous object was made the centerpiece of the Cracking Codes exhibition at The British Museum in 1999. When work commenced to remove all but the original, ancient material the stone was black with white lettering. As treatment progressed, the different substances uncovered were analyzed. Grease from human handling, a coating of carnauba wax from the early 1800s and printer's ink from 1799 were cleaned away using cotton wool swabs and liniment of soap, white spirit, acetone and purified water. Finally, white paint in the text, applied in 1981, which had been left in place until now as a protective coating, was removed with cotton swabs and purified water. A small square at the bottom left corner of the face of the Stone was left untouched to show the darkened wax and the white infill.

### Sample answer(s):

*Whereas principles of the Rosetta Stone attribute to carved characters and layers of material, the significance of treatment would relate to not only residue but also grease and different substances, so as not to undermine the implications of human handling, printer's ink, and protective coatings, as well as carnauba wax. (52 words)*



## 48. Water Source

Water is at the core of sustainable development. Water resources, and the range of services they provide, underpin poverty reduction, economic growth and environmental sustainability. From food and energy security to human and environmental health, water contributes to improvements in social well-being and inclusive growth, affecting the livelihoods of billions.

In a sustainable world that is achievable in the near future, water and related resources are managed in support of human well-being and ecosystem integrity in a robust economy. Sufficient and safe water is made available to meet every person's basic needs, with healthy lifestyles and behaviours easily upheld through reliable and affordable water supply and sanitation services, in turn supported by equitably extended and efficiently managed infrastructure. Water resources management, infrastructure and service delivery are sustainably financed. Water is duly valued in all its forms, with wastewater treated as a resource that avails energy, nutrients and freshwater for reuse. Human settlements develop in harmony with the natural water cycle and the ecosystems that support it, with measures in place that reduce vulnerability and improve resilience to water-related disasters. Integrated approaches to water resources development, management and use — and to human rights — are the norm. Water is governed in a participatory way that draws on the full potential of women and men as professionals and citizens, guided by a number of able and knowledgeable organizations, within a just and transparent institutional framework.

### Sample answer(s):

*Whereas principles of sustainable development attribute to water resource management and sanitation services, the significance of poverty reduction would relate to not only economic growth but also environmental health and social well-being, so as not to undermine the implications of efficient infrastructures, freshwater, wastewater, and an institutional framework as well as a participatory way. (54 words)*



## 49. Plug-in vehicle

Here's a term you're going to hear much more often: plug-in vehicle, and the acronym PEV. It's what you and many other people will drive to work in, ten years and more from now. At that time, before you drive off in the morning you will first unplug your car - your plugin vehicle. Its big on-board batteries will have been fully charged overnight, with enough power for you to drive 50-100 kilometers through city traffic.

When you arrive at work you'll plug in your car once again, this time into a socket that allows power to flow from your car's batteries to the electricity grid. One of the things you did when you bought your car was to sign a contract with your favourite electricity supplier, allowing them to draw a limited amount of power from your car's batteries should they need to, perhaps because of a blackout, or very high wholesale spot power prices. The price you get for the power the distributor buys from your car would not only be most attractive to you, it would be a good deal for them too, their alternative being very expensive power from peaking stations.

If, driving home or for some other reason your batteries looked like running flat, a relatively small, but quiet and efficient engine running on petrol, diesel or compressed natural gas, even biofuel, would automatically cut in, driving a generator that supplied the batteries so you could complete your journey.

Concerns over 'peak oil', increasing greenhouse gas emissions, and the likelihood that by the middle of this century there could be five times as many motor vehicles registered worldwide as there are now, mean that the world's almost total dependence on petroleum-based fuels for transport is, in every sense of the word, unsustainable.

### **Sample answer(s):**

*Whereas principles of plug-in vehicles attribute to on-board batteries and sockets, the significance of charging would relate to not only electricity grids but also suppliers and power prices, so as not to undermine the implications of peak oil, greenhouse gas emissions, natural gas, diesel, and biofuel as well as petroleum-based fuels. (51 words)*

## 50. American English

American English is, without doubt, the most influential and powerful variety of English in the world today. There are many reasons for this. First, the United States is, at present, the most powerful nation on earth and such power always brings with it influence. Indeed, the distinction between a dialect and a language has frequently been made by reference to power. As has been said, "A language is a dialect with an army". Second, America's political influence is extended through American popular culture, in particular through the international reach of American films (movies, of course) and music.

As Kahane has pointed out, "The internationally dominant position of a culture results in a forceful expansion of its language. The expansion of language contributes to the prestige of the culture behind it. Third, the international prominence of American English is closely associated with the extraordinarily quick development of communications technology.

"Third, the international prominence of American English is closely associated with the extraordinarily quick development of communications technology." Microsoft is owned by an American, Bill Gates. This means a computer's default setting for language is American English, although of course this can be changed to suit one's own circumstances. In short, the increased influence of American English is caused by political power and the resultant diffusion of American culture and media, technological advance and the rapid development of communications technology.

### Sample answer(s):

*Whereas principles of American English attribute to a powerful nation and popular culture, the significance of the United States would relate to not only political power but also influence, so as not to undermine the implications of communications technology, media, and technological advances. (55 words)*



## 51. Malaysia Tourism

(The real test question is shorter than this passage, but the content is the same. When writing a summary. Do not include details.)

Malaysia is one of the most pleasant, hassle-free countries to visit in Southeast Asia. Aside from its gleaming 21st century glass towers, it boasts some of the most superb beaches, mountains and national parks in the region.

Malaysia is also launching its biggest-ever tourism campaign in effort to lure 20 million visitors here this year. More than 16 million tourists visited in 2005, the last year for which complete statistics were available.

While the majority of them were from Asia, mostly neighboring Singapore, Thailand, Indonesia, Brunei, China, Japan and India, a growing number of Western travelers are also making their way to this Southeast Asian tropical paradise. Of the 885,000 travelers from the West, 240,000 were from the United Kingdom: 265,000 from Australia and 150,000 from the U.S.

Any tourist itinerary would have to begin in the capital, Kuala Lumpur, where you will find the Petronas Twin Towers: which once comprised the world's tallest buildings and now hold the title of second-tallest. Both the 88-story towers soar 452 meters (1480 feet) high and are connected by a sky-bridge on the 41st floor. Also worth visiting is the Central Market, a pre-war building that was the main wet market for the city, and has now been transformed into an arts and cultural center. The limestone temple Batu Caves: located 15 kilometers (9 miles) north of the city, have a 100-meter-high (328-foot-high) ceiling and feature ornate Hindu shrines, including a 43-meter-tall (141-foot-tall) gold-painted statue of a Hindu deity. To reach the caves: visitors have to climb a steep flight of 272 steps.

In Sabah state on Borneo island, you'll find the small mushroom-shaped Sipadan island: off the coast of Sabah: rated as one of the top five diving sites in the world. Sipadan is the only oceanic island in Malaysia, rising from a 700-meter (2,300-foot) abyss in the Celebes Sea.

You can also climb Mount Kinabalu: the tallest peak in Southeast Asia: visit the Sepilok Orang Utan Sanctuary, go white-water rafting and catch a glimpse of the bizarre Proboscis monkey, a primate found only in Borneo with a huge pendulous nose, a characteristic pot belly and strange honking sounds.

While you're in Malaysia, consider a trip to Malacca. In its heyday, this southern state was a powerful Malay sultanate and a booming trading port in the region. Facing the Straits of Malacca, this historical state is now a place of intriguing Chinese streets, antique shops, old temples and reminders of European colonial powers.

Another interesting destination is Penang, known as the "Pearl of the Orient." This island off the northwest coast of Malaysia boasts of a rich Chinese cultural heritage, good food and beautiful beaches.

### Sample answer(s):

*Whereas principles of Malaysia's tourism attribute to Kuala Lumpur and islands, the significance of tourist destinations would relate to not only Asian but also Western travelers, so as not to undermine the implications of beaches, temples, tall peaks, diving sites, caves, cultural centers, and national parks as well as historical sites. (51 words)*



## 52. Mini war

In such an environment, warfare is no longer purely directed against the military potential of adversarial states. It is rather directed at infiltrating all areas of their societies and to threaten their existences. The comparatively easy access to weapons of mass destruction, in particular relatively low-cost biological agents, is of key concern. Both governmental and non-governmental actors prefer to use force in a way that can be characterized as "unconventional" or also as "small wars." War waged according to conventions is an interstate phenomenon. The "small war" is the archetype of war, in which the protagonists acknowledge no rules and permanently try to violate what conventions do exist. The protagonists of the "small war" observe neither international standards nor arms control agreements. They make use of territories where they do not have to fear any sanctions because there is no functioning state to assume charge of such sanctions or because the state in question is too weak to impose such sanctions. This type of war does not provide for any warning time. It challenges not only the external security of the nation states and international community, but also their internal safety.

### Sample answer(s):

*Whereas principles of small wars attribute to no rules and violating conventions, the significance of international standards would relate to not only sanctions but also external security and internal safety, so as not to undermine the implications of the military potential, weapons of mass destruction, arms control agreements, and warning time as well as warfare. (55 words)*

### 53. Online teaching

What makes online teaching unique is that it uses the Internet, especially the World Wide Web, as the primary means of communication. Thus when you teach online, you don't have to be someplace to teach. You don't have to lug your briefcase full of papers to a classroom; stand at a lectern, scribble on a chalkboard, or grade papers in a stuffy room while your students take a test. You don't even have to sit in your office waiting for students to show conference. You can hold 'office hours' on weekends or at night after dinner. You can do all this while living in a small town in Wyonang, even if working for a college whose administrative offices are located in Florida. You can attend an important conference in Hawaii on the same day that teach your class in New Jersey; logging on via your hotel room's telephone jack.

Online learning offers more freedom for students as well. They can search for courses using the web, scouting the world for programs, classes and instructors that fit their needs. Having found an appropriate course, they can enroll and register, shop for their books, read, listen to lectures; submit their homework assignments, confer with their instructors and receive their final grades all online. They can assemble in virtual classrooms joining other students from diverse geographical locales, forging bonds and friendships not possible in conventional classrooms, which are often limited to students from a specific geographical area.

**Sample answer(s):**

*Whereas principles of online teaching attribute to the Internet and the World Wide Web., the significance of learning would relate to not only specific places but also office hours and instructors, so as not to undermine the implications of freedom, submitting homework assignments, virtual classrooms, and geographical areas as well as forging relationships. (53 words)*



## 54. Uncovering Secrets of the Sphinx

The face, though better preserved than most of the statue, has been battered by centuries of weathering and vandalism. In 1402, an Arab historian reported that a Sufi zealot had disfigured it "to remedy some religious errors." Yet there are clues to what the face looked like in its prime. Archaeological excavations in the early 19th century found pieces of its carved stone beard and a royal cobra emblem from its headdress. Residues of red pigment are still visible on the face, leading researchers to conclude that at some point, the Sphinx's entire visage was painted red. Traces of blue and yellow paint elsewhere suggest to Lehner that the Sphinx was once decked out in gaudy comic book colors.

For thousands of years, sand buried the colossus up to its shoulders, creating a vast disembodied head atop the eastern edge of the Sahara. Then, in 1817, a Genoese adventurer, Capt. Giovanni Battista Caviglia, led 160 men in the first modern attempt to dig out the Sphinx. They could not hold back the sand, which poured into their excavation pits nearly as fast as they could dig it out. The Egyptian archaeologist Selim Hassan finally freed the statue from the sand in the late 1930s. "The Sphinx has thus emerged into the landscape out of shadows of what seemed to be an impenetrable oblivion," the New York Times declared.

### Sample answer(s):

*Whereas principles of the Sphinx's statue attribute to weathering and vandalism, the significance of archeological excavations would relate to not only red paint but also gaudy colors and a disembodied head, so as not to undermine the implications of digging, sand, and an impenetrable oblivion. (45 words)*

## 55. Electric Eels make leaping attacks

On a field trip to the Amazon in 1807, 19th-century explorer Alexander von Humboldt witnessed a group of horses lead through a muddy pool filled with electric eels, which he described as dramatically leaping up to attack the intruders. But scientists have doubted the story. An illustration of Alexander Von Humboldt's story of the battle between the horses and electric eels.

The first time I read von Humboldt's tale, I thought it was completely bizarre, Catania says. Why would the eels attack the horses instead of swimming away? But then he observed the same behavior by accident as he transferred the eels in his lab from one tank to another using a metal-rimmed net. Instead of swimming away, larger eels attacked the net by leaping out of the water.

Catania tracked the strength of the eels' electric shock by attaching a voltmeter to an aluminum plate, or conductive metal strips to "predator" objects such as a crocodile head replica. The zap a submerged eel distributes through the water is relatively weak when it reaches the target.

But when an eel touches it with its electricity-generating chin, the current travels directly to the target and has to travel through its body before it gets back to the water, Catania reported in Proceedings of the National Academy of Sciences. This allows the eels to deliver shocks with a maximum amount of power to partially submerged land animals that invade their territory, Catania explains. "It also allows them to electrify a much larger portion of the invader's body.

Catania found the eels leapt to attack, rather than receded, more often when the water in the aquarium was lower. He argues the attack lets electric eels better defend themselves during the Amazonian dry season, when they're cornered in small pools and make easy prey.

### Sample answer(s):

*Whereas principles of electric eels attribute to swimming away and leaping out of the water, the significance of predators would relate to not only electricity but also shocks and power, so as not to undermine the implications of invading territories, defending, dry seasons, and small pools as well as prey. (50 words)*

## 56. Presidential Election

According to the United States Constitution, a presidential election is to be held once every fourth year. The process of electing a President and Vice-President begins long before Election Day. Candidates from both major and minor political parties and independent candidates begin to raise money and campaign at least one year in advance of the general presidential election. In order to officially represent a political party, a candidate must be nominated by that party.

This primary nomination process is a contest that often produces factions within political parties. These divisions impact the policy stances and agendas of the candidates running for nomination as they attempt to garner the support of party leaders and activists. The nominating process officially begins with the first state primaries and caucuses, which usually occur in the month of February of the election year. It is at these local events that voters are given their first chance to participate in electing the nation's next President.

There are many factors that influence who will ultimately become the candidate for a party. The public's perception of the candidates is influenced by such things as media reports, public opinion polls, candidate preference surveys, and advertising. These factors will help determine the perceived strengths and weaknesses of the candidates in the months leading up to the caucuses and primaries.

### **Sample answer(s):**

*Whereas principles of presidential elections attribute to raising money and campaigning, the significance of Election Day would relate to not only the President but also Vice-president and candidates, so as not to undermine the implications of political parties, factions, state primaries, caucuses, voters, opinion polls, and public's perception as well as advertising. (52 words)*

## 57. Nurse Sharks

Nurse sharks are nocturnal animals, spending the day in large inactive groups of up to 40 individuals. Hidden under submerged ledges or in crevices within the reef, the Nurse sharks seem to prefer specific resting sites and will return to them each day after the nights hunting. By night, the sharks are largely solitary. Nurse sharks spend most of their time foraging through the bottom sediments in search of food. Their diet consists primarily of crustaceans, molluscs, tunicates and other fish such as spiny lobsters, crabs, shrimps, sea urchins, octopuses, squid, marine snails and bivalves and in particular, stingrays.

Nurse sharks are thought to take advantage of dormant fish which would otherwise be too fast for the sharks to catch, although their small mouths limit the size of prey items, the sharks have large throat cavities which are used as a sort of bellows valve. In this way, Nurse Sharks are able to suck in their prey. Nurse sharks are also known to graze algae and coral.

Nurse sharks have been observed resting on the bottom with their bodies supported on their fins, possibly providing a false shelter for crustaceans which they then ambush and eat.

### **Sample answer(s):**

*Whereas principles of Nurse sharks attribute to inactive groups and submerged ledges, the significance of searching for food would relate to not only dormant fish but also prey and algae, so as not to undermine the implications of nights hunting, resting sites, small mouths, false shelters, and throat cavities, as well as diet. (53 words)*



## 58. Overqualified worker

If your recruiting efforts attract job applicants with too much experience—a near certainty in this weak labor market—you should consider a response that runs counter to most hiring managers' MO: Don't reject those applicants out of hand. Instead, take a closer look.

New research shows that overqualified workers tend to perform better than other employees, and they don't quit any sooner. Furthermore, a simple managerial tactic—empowerment—can mitigate any dissatisfaction they may feel.

The prejudice against too-good employees is pervasive. Companies tend to prefer an applicant who is a "perfect fit" over someone who brings more intelligence, education, or experience than needed. On the surface, this bias makes sense: Studies have consistently shown that employees who consider themselves overqualified exhibit higher levels of discontent.

But even before the economic downturn, a surplus of overqualified candidates was a global problem, particularly in developing economies, where rising education levels are giving workers more skills than are needed to supply the growing service sectors.

### Sample answer(s):

*Whereas principles of overqualified workers attribute to hiring managers and managerial tactics, the significance of employee empowerment would relate to not only intelligence but also education and experience, so as not to undermine the implications of the economic downturn, overqualified candidates, developing economies, and skills as well as service sectors. (50 words)*



## 59. Benefits of Honey

If you've been buying sports gels to keep you going during your workout, you might want to try honey instead. According to findings presented today at the annual Experimental Biology conference, honey delivers a significant performance boost to athletes during strenuous exercise.

"Numerous studies have singled out carbohydrates as a critical nutrient in endurance exercise," says principal investigator Richard Kreider of the University of Memphis Exercise and Sport Nutrition Laboratory. "Most of the studies to date have shown supplementation with glucose to provide the extra staying power. We were pleased to find that honey, a 'cocktail' of various natural sugars, performed just as well."

The team let nine competitive male cyclists cycle for 64 kilometers each week for three weeks, feeding them honey, dextrose gel or a flavored, calorie-free placebo. Participants received 15 grams of that supplement along with 250 milliliters of water before they raced and then every 16 kilometres while cycling. Both the honey and the dextrose gel led to better times and more cycling power among the athletes, as compared with the placebo's effects. While the dextrose gel slightly outperformed honey, the difference was negligible, leading the researchers to conclude that honey can be a natural and effective carbohydrate source for endurance athletes.

### **Sample answer(s):**

*Whereas principles of honey attribute to a performance boost and strenuous exercise, the significance of endurance athletes would relate to not only carbohydrates but also glucose and natural sugars, so as not to undermine the implications of extra power, dextrose gel, and placebo as well as critical nutrients. (48 words)*



## 60. Great Managers

What do great managers actually do?

In my research, beginning with a survey of 80,000 managers conducted by the Gallup Organization and continuing during the past two years with in-depth studies of a few top performers, I've found that while there are as many styles of management as there are managers, there is one quality that sets truly great managers apart from the rest: They discover what is unique about each person and then capitalize on it. Average managers play checkers, while great managers play chess. The difference? In checkers, all the pieces are uniform and move in the same way; they are interchangeable. You need to plan and coordinate their movements, certainly, but they all move at the same pace, on parallel paths. In chess, each type of piece moves in a different way, and you can't play if you don't know how each piece moves. More important, you won't win if you don't think carefully about how you move the pieces. Great managers know and value the unique abilities and even the eccentricities of their employees, and they learn how best to integrate them into a coordinated plan of attack.

This is the exact opposite of what great leaders do. Great leaders discover what is universal and capitalize on it. Their job is to rally people toward a better future. Leaders can succeed in this only when they can cut through differences of race, sex, age, nationality, and personality and, using stories and celebrating heroes, tap into those very few needs we all share. The job of a manager, meanwhile, is to turn one person's particular talent into performance. Managers will succeed only when they can identify and deploy the differences among people, challenging each employee to excel in his or her own way. This doesn't mean a leader can't be a manager or vice versa. But to excel at one or both, you must be aware of the very different skills each role requires.

### Sample answer(s):

*Whereas principles of great managers attribute to management styles and capitalizing, the significance of turning talent into performance would relate to not only playing checkers but also chess and coordinating movement, so as not to undermine the implications of unique abilities, employee eccentricities, personality differences and great leaders, as well as skills. (52 words)*



## 61. Cities

How can we design great cities from scratch if we cannot agree on what makes them great? None of the cities where people most want to live — such as London, New York, Paris and Hong Kong — comes near to being at the top of surveys asking which are best to live in.

The top three in the most recent Economist Intelligence Unit's livability ranking, for example, were Melbourne, Vancouver and Vienna. They are all perfectly pleasant, but great? The first question to tackle is the difference between livability and greatness. Perhaps we cannot aspire to make a great city, but if we attempt to make a livable one, can it in time become great?

There are some fundamental elements that you need. The first is public space. Whether it is Vienna's Ringstrasse and Prater park, or the beaches of Melbourne and Vancouver, these are places that allow the city to pause and the citizens to mingle and to breathe, regardless of class or wealth. Good cities also seem to be close to nature, and all three have easy access to varied, wonderful landscapes and topographies.

A second crucial factor, says Ricky Burdett, a professor of urban studies at the London School of Economics, is a good transport system. "Affordable public transport is the one thing which cuts across all successful cities," he says.

### Sample answer(s):

*Whereas principles of great cities attribute to livability rankings and greatness, the significance of successful cities would relate to not only public space but also nature and varied landscapes, so as not to undermine the implications of topographies and a good transport system. (43 words)*



## 62. Multi-life

Life expectancies have been rising by up to three months a year since 1840, and there is no sign of that flattening. Gratton and Scott draw on a 2009 study to show that if the trend continues, more than half the babies born in wealthier countries since 2000 may reach their 100th birthdays.

With a few simple, devastating strokes, Gratton and Scott show that under the current system it is almost certain you won't be able to save enough to fund several decades of decent retirement. For example, if your life expectancy is 100, you want a pension that is 50 per cent of your final salary, and you save 10 per cent of your earnings each year, they calculate that you won't be able to retire till your 80s. People with 100-year life expectancies must recognise they are in for the long haul, and make an early start arranging their lives accordingly.

But how to go about this? Gratton and Scott advance the idea of a multistage life, with repeated changes of direction and attention. Material and intangible assets will need upkeep, renewal or replacement. Skills will need updating, augmenting or discarding, as will networks of friends and acquaintances. Earning will be interspersed with learning or self-reflection. As the authors warn, recreation will have to become "re-creation".

### Sample answer(s):

*Whereas principles of life expectancy attribute to retirement and pensions, the significance of a multistage life would relate to not only changing direction but also attention and learning, so as not to undermine the implications of materials, intangible assets, updating skills, friend networks, earnings, and, self-reflection as well as recreation. (50 words)*



### 63. The Story of Columbus

When Christopher Columbus arrived at Hispaniola during his first transatlantic voyage in the year A.D. 1492, the island had already been settled by Native Americans for about 5,000 years. The occupants in Columbus's time were a group of Arawak Indians called Tainos who lived by farming, were organized into five chiefdoms, and numbered around half a million (the estimates range from 100,000 to 2,000,000). Columbus initially found them peaceful and friendly, until he and his Spaniards began mistreating them.

Unfortunately for the Tainos, they had gold, which the Spanish coveted but didn't want to go to the work of mining themselves. Hence the conquerors divided up the island and its Indian population among individual Spaniards, who put the Indians to work as virtual slaves, accidentally infected them with Eurasian diseases, and murdered them. By the year 1519, 27 years after Columbus's arrival, that original population of half a million had been reduced to about 11,000, most of whom died that year of smallpox to bring the population down to 3,000.

**Sample answer(s):**

*Whereas principles of Christopher Columbus attribute to Hispaniola and his transatlantic voyage, the significance of Native Americans would relate to not only farming but also being peaceful and friendly, so as not to undermine the implications of gold mines, virtual slaves, diseases, and smallpox as well as murdering Tainos. (49 words)*

## 64. Twins

UCLA neurology professor Paul Thompson and his colleagues scanned the brains of 23 sets of identical twins and 23 sets of fraternal twins. Since identical twins share the same genes while fraternal twins share about half their genes, the researchers were able to compare each group to show that myelin integrity was determined genetically in many parts of the brain that are key for intelligence. These include the parietal lobes, which are responsible for spatial reasoning, visual processing and logic, and the corpus callosum, which pulls together information from both sides of the body.

The researchers used a faster version of a type of scanner called a HARDI (high-angular resolution diffusion imaging) — think of an MRI machine on steroids — that takes scans of the brain at a much higher resolution than a standard MRI. While an MRI scan shows the volume of different tissues in the brain by measuring the amount of water present, HARDI tracks how water diffuses through the brain's white matter — a way to measure the quality of its myelin.

"HARDI measures water diffusion," said Thompson, who is also a member of the UCLA Laboratory of Neuro-Imaging. "If the water diffuses rapidly in a specific direction, it tells us that the brain has very fast connections. If it diffuses more broadly, that's an indication of slower signaling, and lower intelligence."

### Sample answer(s):

*Whereas principles of genes attribute to identical twins and fraternal twins, the significance of myelin integrity would relate to not only the brain but also intelligence and logic, so as not to undermine the implications of spatial reasoning, visual processing, scanning the brain's white matter, measuring water diffusion, and fast connections. (51 words)*



## 65. Autism

Autism is a disorder characterized by impairments in communication, social interaction, and repetitive behaviors. Over the past 40 years, the measured prevalence of autism has multiplied roughly 10-fold. While progress has been made in understanding some of the factors associated with increased risk and rising prevalence, no one knows with certainty what causes autism or what caused autism prevalence to rise so precipitously. There is, however, a growing awareness among scholars that focusing solely on individual risk factors such as exposure toxicants, prenatal complications, or parental education is insufficient to explain why autism prevalence rates have increased so stunningly. Social and institutional processes likely play an important role. For example, changes in diagnostic criteria and an influx of resources dedicated to autism diagnosis may be critical to understanding why prevalence rates have risen. Increased awareness and social influence have been implicated in the rise of autism and a variety of comparable disorders, where social processes mimic the effects of contagion. Studies have examined the contribution of changes in diagnostic criteria and diagnostic substitution to rising autism prevalence rates, but the importance of institutional factors, resources for diagnosis, and greater awareness have not been systematically assessed. The sociological literature on health and inequality, however, provides substantial motivation for exploring how individual- and community-level effects operate to shape the likelihood of an autism diagnosis.

### **Sample answer(s):**

*Whereas principles of autism's prevalence attribute to prenatal complications and exposure toxicants, the significance of institutional factors would relate to not only greater awareness but also social and institutional processes, so as not to undermine the implications of systematic assessment, diagnostic criteria, sociological literature, and individual-level as well as community-level effects. (51 words)*



## 66. Eye surgery - Blindness

Scientists believe they may have found a way to prevent complications that can arise following cataract surgery, the world's leading cause of blindness.

Detailing why complications can occur after surgery, researchers from the University of East Anglia (UEA) explained that while cataract surgery works well to restore vision, a few natural lens cells always remain after the procedure. Over time, the eye's wound-healing response leads these cells to spread across the underside of the artificial lens, which interferes with vision, causing what's known as 'posterior capsule opacification' or secondary cataract.

UEA's School of Biological Sciences academic, Dr. Michael Wormstone, who led the study, said: "Secondary visual loss responds well to treatment with laser surgery. But as life expectancy increases, the problems of cataract and posterior capsule opacification will become even greater in terms of both patients' wellbeing and economic burden. It's essential that we find better ways to manage the condition in future."

As a result, researchers are designing new artificial lenses that can be placed into a capsular bag that stays open, instead of shrink-wrapping closed, which currently occurs. It is believed that, through the new approach, fluid in the eye can flow around the artificial lens, therefore diluting and washing away the cell-signaling molecules that encourage cell re-growth.

### **Sample answer(s):**

*Whereas principles of blindness attribute to cataract surgery and restoring vision, the significance of secondary cataract would relate to not only artificial lenses but also eye fluid and cell re-growth, so as not to undermine the implications of natural lens cells, wellbeing, and laser surgery as well as wound-healing responses. (50 words)*



## 67. Books and Television

To understand the final reason why the news marketplace of ideas dominated by television is so different from the one that emerged in the world dominated by the printing press, it is important to distinguish the quality of vividness experienced by television viewers from the “vividness” experienced by readers. I believe that the vividness experienced in the reading of words is automatically modulated by the constant activation of the reasoning centers of the brain that are used in the process of co-creating the representation of reality the author has intended. By contrast, the visceral vividness portrayed on television has the capacity to trigger instinctual responses similar to those triggered by reality itself – and without being modulated by logic, reason, and reflective thought.

The simulation of reality accomplished in the television medium is so astonishingly vivid and compelling compared with the representations of reality conveyed by printed words that it signifies much more than an incremental change in the way people consume information. Books also convey compelling and vivid representation of reality, of course. But the reader actively participates in the conjuring of the reality the book’s author is attempting to depict. Moreover, the parts of the human brain that are central to the reasoning process are continually activated by the very act of reading printed words: Words are composed of abstract symbols – letters – that have no intrinsic meaning themselves until they are strung together into recognizable sequences.

Television, by contrast, present to its viewers a much more fully formed representation of reality – without requiring the creative collaboration that words have always demanded.

### Sample answer(s):

*Whereas principles of vividness attribute to television viewers and book readers, the significance of presenting reality would relate to not only logic but also reason and reflective thought, so as not to undermine the implications of the reasoning process, instinctual responses, the human brain, and printed words as well as the creative collaboration. (53 words)*





## 68. Research on Birds- Climate Change

As warmer winter temperatures become more common, one way for some animals to adjust is to shift their ranges northward. But a new study of 59 North American bird species indicates that doing so is not easy or quick -- it took about 35 years for many birds to move far enough north for winter temperatures to match where they historically lived.

For example, black vultures have spread northward in the last 35 years and now winter as far north as Massachusetts, where the minimum winter temperature is similar to what it was in Maryland in 1975. On the other hand, the endangered red-cockaded woodpecker did not alter its range at all despite the warming trend, possibly because its very specific habitat requirements precluded a range shift.

Both of these scenarios could represent problems for birds, La Sorte said. Species that do not track changes in climate may wind up at the limits of their physiological tolerance, or they may lose important habitat qualities, such as favored food types, as those species pass them by. But they also can't move their ranges too fast if the habitat conditions they depend on also tend to lag behind climate.

### **Sample answer(s):**

*Whereas principles of bird species attribute to spreading northward and adjusting to warmer climates, the significance of the warming trend would relate to not only physiological tolerance but also habitat qualities and food types, so as not to undermine the implications of winter temperatures, shifting ranges, and tracking changes. (49 words)*

**PTE**  
**MAGAZINE**



## 69. Talent War

The war for talent refers to an increasingly competitive landscape for recruiting and retaining talented employees. In the book, Michaels, et al., describe not a set of superior Human Resources processes, but a mindset that emphasizes the importance of talent to the success of organizations.

The war for talent is intensified by demographic shifts (primarily in the United States and Europe). This is characterized by increasing demand along with decreasing supply (demographically). There are simply fewer post-baby-boom workers to replace the baby-boom retirement in the US and Europe (though this is not the case in most of East Asia, Southeast Asia, Central Asia, Central America, South America, or the Middle East; Eastern Europe also tends to have similar demographics, namely an aging and/or shrinking labor force).

While talent is vague or ill-defined, the underlying assumption is that for knowledge-intensive industries, the knowledge worker (a coined by Peter Drucker) is the key competitive resource (see the Resource-based view of the firm). Knowledge-based theories of organizations consistently place knowledge workers as a primary, competitive resource.

Talent is never explicitly defined in the book, though the Preface notes, “A certain part of talent caveats, the authors go on: “We can say, however, that managerial talent is some combination of a sharp strategic mind, leadership ability, emotional maturity, communication skills, the ability to attract and inspire other talented people, entrepreneurial instincts, functional skills, and the ability to deliver results” (p.xiii). The authors offer no outside support for this assertion.

A 2006 article in The Economist, which mentions the book, notes that, “companies do not even know how to define “talent”, let alone how to manage it. Some use it to mean people like Aldous Huxley’s alphas in “Brave New World” --- those at the top of the bell curve.

Others employ it as a synonym for the entire workforce, a definition so broad as to be meaningless.

The War for talent is seen by various sources as becoming irrelevant during economic downturns.

However, there have been highly visible talent poaching by solvent firms of others who have economic hardship.

### **Sample answer(s):**

*Whereas principles of talents attribute to recruiting and retaining talented employees, the significance of demographic shifts would relate to not only increasing demand but also decreasing supply, so as not to undermine the implications of a shrinking labor force, the knowledge worker, competitive resources, managerial talent, and economic downturns as well as workforce. (53 words)*

## 70. Volcano

In 1815 on the island of Sumbawa in Indonesia, a handsome and long-quiescent mountain named Tambora exploded spectacularly, killing a hundred thousand people with its blast and associated tsunamis. It was the biggest volcanic explosion in ten thousand years-150 times the size of Mount St. Helens, equivalent to sixty thousand Hiroshima-sized atom bombs. News didn't travel terribly fast in those days. In London, The Times ran a small story—actually a letter from a merchant—seven months after the event. But by this time Tambora's effects were already being felt. Thirty-six cubic miles of smoky ash, dust, and grit had diffused through the atmosphere, obscuring the Sun's rays and causing the Earth to cool. Sunsets were unusually but bleakly colorful, an effect memorably captured by the artist J. M. W. Turner, who could not have been happier, but mostly the world existed under an oppressive, dusky pall. It was this deathly dimness that inspired the Byron lines above. Spring never came and summer never warmed: 1816 became known as the year without summer. Crops everywhere failed to grow. In Ireland a famine and associated typhoid epidemic killed sixty-five thousand people. In New England, the year became popularly known as Eighteen Hundred and Froze to Death. Morning frosts continued until June and almost no planted seed would grow. Short of fodder, livestock died or had to be prematurely slaughtered. In every way it was a dreadful year—almost certainly the worst for farmers in modern times. Yet globally the temperature fell by only about 1.5 degrees Fahrenheit. Earth's natural thermostat, as scientists would learn, is an exceedingly delicate instrument.

### Sample answer(s):

*Whereas principles of Tambora attribute to a blast and tsunamis, the significance of the biggest volcanic explosion would relate to not only smoky ash but also dust and grit, so as not to undermine the implications of the Sun's rays, summer, crop growth, famine, typhoid epidemics, and morning frosts as well as a temperature fall. (55 words)*

## 71. Overqualified (Version. 2)

New research shows that overqualified workers tend to perform better than other employees, and they don't quit any sooner. Furthermore, a simple managerial tactic—empowerment—can mitigate any dissatisfaction they may feel. The prejudice against too-good employees is pervasive. Companies tend to prefer an applicant who is a "perfect fit" over someone who brings more intelligence, education, or experience than needed. On the surface, this bias makes sense: Studies have consistently shown that employees who consider themselves overqualified exhibit higher levels of discontent. For example, overqualification correlated well with job dissatisfaction in a 2008 study of 156 call-center reps by Israeli researchers Saul Fine and Baruch Nevo. And unlike discrimination based on age or gender, declining to hire overqualified workers is perfectly legal, as shown by U.S. federal court rulings upholding the New London, Connecticut, police department's rejection of a high-IQ candidate on the grounds that he'd probably become dissatisfied and quit. This kind of thinking has tossed untold numbers of experienced, highly skilled people into the ranks of the long-term unemployed, a group that now constitutes nearly half of all U.S. jobless. But even before the economic downturn, a surplus of overqualified candidates was a global problem, particularly in developing economies, where rising education levels are giving workers more skills than are needed to supply the growing service sectors. In China, where the number of college graduates has tripled since 1998, more than one-fourth of this year's 6.3 million college grads are out of work, according to Bloomberg Businessweek.

### Sample answer(s):

*Whereas principles of overqualified workers attribute to higher performance and discontent, the significance of managerial tactics would relate to not only education but also intelligence and experience, so as not to undermine the implications of job dissatisfaction, the economic downturn, and growing service sectors. (44 words)*



## 72. Primary Carers

Slightly less than one in five carers (19%) were primary carers (475,000 people). That is, they were the main carer of a person who was limited in carrying out the core everyday activities of mobility, communication or self-care. Both primary carers and the larger group of other carers (close to 2 million) contribute to the wellbeing of older people and people with disabilities. However, because they care for people who otherwise would have difficulty carrying out basic everyday activities, there is particular interest in primary carers: in the contribution they make, their wellbeing, labor force experiences, motivations and the support they receive in caring. Primary carers were more likely than other carers to be assisting someone who lived in the same household (81% compared with 76%). As with caring as a whole, the likelihood of being a primary care increased with age to peak at age 55-64 years, where one in twenty people were primary carers. However, rather than then declining, the likelihood of being a primary carer remained at around this level among the older age groups. Consequently, primary carers had a somewhat older age profile than other carers. The median age of primary carers was 52 years, compared with 47 years for other carers. Primary carers were more likely than other carers to be female (71% compared with 50%) and less likely to be in the labor force (39% compared with 60%). Women not in the labor force were by far the largest single group among primary carers (44%). In contrast, men employed full-time were the largest single group among other carers (25%). Consistent with their lower labor force participation, primary carers had lower personal incomes than other carers (a median gross income of \$237 per week compared with \$327 per week) and were more likely to have a government pension or allowance as their main source of income (55% compared with 35%)

### **Sample answer(s):**

*Whereas principles of primary carers attribute to older and disabled people, the significance of self-care would relate to not only mobility but also communication and wellbeing, so as not to undermine the implications of basic everyday activities, females, older age profiles, and their main source of income, as well as the labor force. (53 words)*

### 73. THE BOOKSELLERS OF HOOKHAM AND CARPENTER

THE BOOKSELLERS OF HOOKHAM AND CARPENTER (hereafter referred to only as 'Hookham') were located on New Bond Street in London, and their records span the most politically turbulent decade of the eighteenth-century — the 1790s. Clients who frequented Hookham were primarily from the aristocratic or gentry classes. In fact, of Hookham's total buyers, 22% were aristocracy and 35% of the aristocracy purchased novels. We can also confidently assume that untitled female customers were of gentry income, because their addresses were primarily in London's fashionable 'West End'. Hookham's ledgers not only reveal a dramatic increase in the proportion of female purchasers of novels by comparison to earlier studies of provincial women, but they also reveal a remarkable increase in the proportion of female purchases of novels authored by females. Such a marked increase illustrates that Hookham's leisured female customers were able to buy more novels. Furthermore, the fact that these female aristocrats and gentry have accounts under their own name, not their husbands', demonstrates the greater degree of agency and independence that these urban, moneyed women had relative to provincial women. However, because our study does not include an examination of male customers, we are very limited in what claims we can make about whether or not these women behaved according to the cliché that women were the predominant consumers of novels in the eighteenth-century. Moreover, while more disposable income and leisure time certainly accounts for in this politically charged decade. Thus, novel reading provided women readers with the means through which they were able to participate in the male-dominated world of politics. The latter part of our paper will more fully explore this hypothesis in the context of certain recent literary scholars' claims that both Gothic and sentimental novels are actively engaged in political debate and discussion.

#### **Sample answer(s):**

*Whereas principles of Hookham attribute to aristocracy and gentry income, the significance of buying novels would relate to not only female purchasers but also authors, so as not to undermine the implications of the degree of agency, independence, moneyed women, provincial women, leisure time, and predominant customers as well as the male-dominated world of politics. (55 words)*

## 74. Frog in Amber

Frog in Amber a tiny tree frog preserved in amber is believed to have lived about 25 million years ago, a Mexican researcher says. The chunk of amber containing the centimeter-long frog was uncovered by a miner in southern Chiapas State in 2005 and bought by a private collector, who lent it to scientists for study. Only a few preserved frogs have been found in chunks of amber — a stone formed by ancient tree sap — mostly in the Dominican Republic. Like those, the frog found in Chiapas was of the genus *Craugastor*, whose relatives still inhabit the region. Gerardo Carbot, the biologist with the Chiapas Natural History and Ecology Institute who announced the discovery on Wednesday, said it was the first such frog found in amber in Mexico.

Carbot said he would like to extract a sample from the frog's remains to see whether they contain well-preserved DNA, in order to identify the frog's species. However, he expressed doubt that the stone's owner would allow researchers to drill a small hole into the chunk of amber.

### Sample answer(s):

*Whereas principles of Frog in Amber attribute to tiny tree frogs and chunks of amber, the significance of frog species would relate to not only Mexico but also Chiapas, so as not to undermine the implications of a miner, ancient tree sap, the stone's collector, and samples of DNA as well as drilling a hole. (55 words)*

**PTE**  
**MAGAZINE**



## 75. Cyberbullying

Despite the growth of social media, the Internet and their central role in modern childhood, traditional bullying — such as name-calling or being excluded by others — remains considerably more common than cyberbullying, according to the largest study of its kind published in *The Lancet Child and Adolescent Health* journal.

The study estimates that less than 1% of 15-year-olds in England report only being bullied online regularly, while more than one in four (27%) experience only face-to-face bullying methods.

With nine out of 10 of the teenagers who are bullied online also facing regular traditional bullying, the researchers suggest that cyberbullying is an additional tactic in the bullies' arsenal, and that both forms must be tackled together to prevent bullying and improve teenagers' resilience.

Concerns have been raised that cyberbullying has the potential to cause more harm than traditional bullying due to the relative anonymity of perpetrators in many cases, larger audiences, increasing prevalence, and permanence of posted messages. However, in the study, the experience of only cyberbullying was found to have a very small association with well-being and life satisfaction when compared with traditional bullying alone.

### **Sample answer:**

*Whereas principles of modern childhood attribute to traditional bullying and cyberbullying, the significance of social media would relate to not only teenagers but also the Internet and anonymity, so as not to undermine the implications of larger audiences, increasing prevalence, permanence, well-being and life satisfaction as well as improving teenager's resilience. (51 words)*





## 76. World-wide-web Inventor

Sir Timothy John Berners-Lee (born 8 June 1955), also known as TimBL, is an English engineer and computer scientist, best known as the inventor of the World Wide Web. He is currently a professor of Computer Science at the University of Oxford. He made a proposal for an information management system in March 1989, and he implemented the first successful communication between a Hypertext Transfer Protocol (HTTP) client and server via the internet in mid-November the same year.

Berners-Lee is the director of the World Wide Web Consortium (W3C), which oversees the continued development of the Web. He is also the founder of the World Wide Web Foundation and is a senior researcher and holder of the founders chair at the MIT Computer Science and Artificial Intelligence Laboratory (CSAIL). He is a director of the Web Science Research Initiative (WSRI), and a member of the advisory board of the MIT Center for Collective Intelligence. In 2011, he was named as a member of the board of trustees of the Ford Foundation. He is a founder and president of the Open Data Institute.

In 2004, Berners-Lee was knighted by Queen Elizabeth II for his pioneering work. In April 2009, he was elected a foreign associate of the United States National Academy of Sciences. Named in Time magazine's list of the 100 Most Important People of the 20th century, Berners-Lee has received a number of other accolades for his invention. He was honored as the "Inventor of the World Wide Web" during the 2012 Summer Olympics opening ceremony, in which he appeared in person, working with a vintage NeXT Computer at the London Olympic Stadium. He tweeted "This is for everyone", which instantly was spelled out in LCD lights attached to the chairs of the 80,000 people in the audience. Berners-Lee received the 2016 Turing Award "for inventing the World Wide Web, the first web browser, and the fundamental protocols and algorithms allowing the Web to scale".

### **Sample answer(s):**

*Whereas principles of Berners-Lee attribute to an English engineer and computer scientist, the significance of the inventor of the World Wide Web would relate to not only a professor but also director and founder, so as not to undermine the implications of a senior researcher, the advisory board in MIT, and the Ford Foundation. (54 words)*

## 77. Hunter gatherers

It has been 100,000 years since members of the human species began to process information in a way that allowed them to recreate the world in their minds. What followed remodeled the face of our planet — but not until proto-farmers adopted a settled existence, a process that began only 12,000 years ago. The effects of this lifestyle change were profound.

Hunter-gatherers were integrated into their environments and, as far as we can tell, early groups behaved accordingly, their populations controlled by the availability of natural resources. For fledgling farmers, the calculation was entirely different. Clearing land for crops demanded labor, as did constructing and maintaining the irrigation systems necessary to compensate for irregular rainfall. In a world where resources were more abundant and more reliable, our ancestors' more-or-less helpless offspring flourished, expanding the population.

Soon, people found themselves in a constant battle with the environment to maintain their fields, a struggle that was won only occasionally, by exhausting the capital nature herself provided. The bargain made by the early farmers was in many ways a Faustian one, but it was fundamental to creating the modern world.

After the retreat of the polar icecap at the end of the last ice age, Britain's tundra was replaced by dense forest. The rise of forests wasn't the only dramatic change at this time: sea levels rose to drown the former "Doggerland" that lay between Britain and the rest of Europe, cutting the archipelago off.

The hunter-gatherers of the Mesolithic prepared the way for farmers by extensive burning to create clearings for browsing mammals (and even, Miles hints, for ritual purposes), and by creating a system of trails.

### **Sample answer(s):**

*Whereas principles of human species attribute to settled existences and proto-farmers, the significance of hunter-gatherers would relate to not only natural resources but also fields and crops, so as not to undermine the implications of demanding labor, maintaining the irrigation system, rising sea levels, creating trails, retreating of the polar icecap, and extensive burning. (54 words)*



## 78. Orbital Debris

For decades, space experts have worried that a speeding bit of orbital debris might one day smash a large spacecraft into hundreds of pieces and start a chain reaction, a slow cascade of collisions that would expand for centuries, spreading chaos through the heavens. In the last decade or so, as scientists came to agree that the number of objects in orbit had surpassed a critical mass or, in their terms, the critical spatial density, the point at which a chain reaction becomes inevitable they grew more anxious.

Early this year, after a half-century of growth, the federal list of detectable objects (four inches wide or larger) reached 10,000 including dead satellites, spent rocket stages, a camera, a hand tool and junkyards of whirling debris left over from chance explosions and destructive tests. So our billion dollar of satellites are at risk. As space experts have worried that orbital debris might one day smash a large spacecraft into pieces and start a chain reaction, the scientist recently came to agree that the number of orbital debris had surpassed the critical spatial density, which will inevitably lead to a chain reaction that puts our billion dollars of satellites at risk.

### Sample answer(s):

*Whereas principles of orbital debris attribute to a chain reaction and collisions, the significance of the critical space density would relate to not only detectable objects but also satellites and spacecraft, so as not to undermine the implications of space experts, chance explosions, and destructive tests. (46 words)*

## 79. The Greatest Climate Change

The greatest climate change the world has seen in the last 100,000 years was the transition from the ice age to the warm interglacial period. New research from the Niels Bohr Institute at the University of Copenhagen indicates that, contrary to the previous opinion, the rise in temperature and the rise in the atmospheric CO<sub>2</sub> follow each other closely in terms of time. The results have been published in the scientific journal, *Climate of the Past*.

In the warmer climate, the atmospheric content of CO<sub>2</sub> is naturally higher. The gas CO<sub>2</sub> (carbon dioxide) is a greenhouse gas that absorbs heat radiation from Earth and thus keeps Earth warm. In the shift between ice ages and interglacial periods, the atmospheric content of CO<sub>2</sub> helps to intensify the natural climate variations.

It had previously been thought that as the temperature began to rise at the end of the ice age approximately 19,000 years ago, an increase in the amount of CO<sub>2</sub> in the atmosphere followed with a delay of up to 1,000 years.

"Our analysis of ice cores from the ice sheet in Antarctica shows that the concentration of CO<sub>2</sub> in the atmosphere follows the rise in Antarctic temperatures very closely and is staggered by a few hundred years at most," explains Sune Olander Rasmussen, Associate Professor and center coordinator at the Centre for Ice and Climate at the Niels Bohr Institute at the University of Copenhagen.

### **Sample answer(s):**

*Whereas principles of the greatest climate change attribute to the ice age and the warm interglacial period, the significance of the rise in temperature would relate to not only atmospheric CO<sub>2</sub> but also greenhouse gases and heat radiation, so as not to undermine the implications of natural climate variations and the rise in Antarctic temperatures. (55 words)*



## 80. Brain Research

Scientists have worked for many years to unravel the complex workings of the brain. Their research efforts have greatly improved our understanding of brain function. During the past decade alone, scientific and technical progress in all fields of brain research has been astonishing. Using new imaging techniques, scientists can visualize the human brain in action. Images produced by these techniques have defined brain regions responsible for attention, memory, and emotion. A series of discoveries (in multiple fields of study) has displaced the long-standing assumption that brain cells are stable and unchanging. Amazingly, new findings show that some adult brain cells can divide and grow! In addition, advances in research are allowing scientists to analyze and make progress toward understanding the causes of inherited brain disorders such as Alzheimer's disease and Parkinson's disease. Taken together, these discoveries provide hope for the recovery of nervous system function lost through injury or disease.

Despite these and other significant advances in the field of brain research, most of the processes responsible for the integrated functioning of billions of brain cells remain a mystery. Research on the brain in the new millennium is crucial to our effort to come to a complete understanding of this fascinating organ. In turn, improved understanding makes the development of new treatment options possible. Research continues to bring new insights into how the brain is put together, how it works, and whether damage to the brain can be reversed.

### **Sample answer(s):**

*Whereas principles of brain research attribute to scientific and technical progress, the significance of imaging techniques would relate to not only attention but also memory and emotion, so as not to undermine the implications of brain cells, inherited brain disorders, and nervous system function as well as new treatments. (49 words)*



## 81. Autonomy and Modernity of Art

Broadly speaking, there are two different ways of thinking about modern art, or two different versions of the story. One way is to view art as something that can be practiced (and thought of) as an activity radically separate from everyday life or worldly concerns. From this point of view, art is said to be ‘autonomous’ from society – that is, it is believed to be self-sustaining and self-referring.

One particularly influential version of this story suggests that modern art should be viewed as a process by which features extraneous to a particular branch of art would be progressively eliminated, and painters or sculptors would come to concentrate on problems specific to their domain. Another way of thinking about modern art is to view it as responding to the modern world, and to see modern artists immersing themselves in the conflicts and challenges of society. That is to say, some modern artists sought ways of conveying the changing experiences generated in Europe by the twin processes of commercialization (the commodification of everyday life) and urbanization. From this point of view, modern art is a way of reflecting on the transformations that created what we call, in a sort of shorthand, ‘modernity’.

### Sample answer(s):

*Whereas principles of modern art attribute to the conflicts and challenges of society, the significance of modern artists would relate to not only being self-sustaining but also self-referring and autonomous, so as not to undermine the implications of modernity, commercialization, urbanization, and transformation as well as the modern world. (49 words)*

## 82. World-wide-web Inventor (Version 2)

He is the man who has changed the world more than anyone else in the past hundred years. Sir Tim Berners-Lee may be a mild-mannered academic who lives modestly in Boston, but as the inventor of the World Wide Web he is also a revolutionary. Along with Galileo, William Caxton and Sir Isaac Newton, he is a scientist who has altered the way people think as well as the way they live.

Since the web went global 20 years ago, the way we shop, listen to music and communicate has been transformed. There are implications for politics, literature, economics — even terrorism — because an individual can now have the same access to information as the elite. Society will never be the same.

The computer scientist from Oxford, who built his own computer from a television screen and spare parts after he was banned from one of the university computers, is a cultural guru as much as a technological one.

“It is amazing how far we’ve come,” he says. “But you’re always wondering what’s the next crazy idea, and working to make sure the web stays one web and that the Internet stays open. There isn’t much time to sit back and reflect.”

We speak for more than an hour about everything from Facebook to fatwas, Wikipedia to Google. He invented the web, he says, because he was frustrated that he couldn’t find all the information he wanted in one place. It was an imaginary concept that he realized.

### Sample answer(s):

*Whereas principles of Sir Tim Berners-Lee attribute to the inventor of the World Wide Web and a revolutionary, the significance of accessing information would relate to not only the Internet but also the computer, so as not to undermine the implications of changing the world, altering the way people think, and being a technological guru. (55 words)*

