

IELTSFever Academic Reading Test 80

Reading Passage 1

Digital Diet

You should spend about 20 minutes on Questions 1-13 which are based on the Reading Passage below.

{A} Telecommuting, Internet shopping and online meetings may save energy as compared with in-person alternatives, but as the digital age moves on, its green reputation is turning a lot brown. E-mailing, number crunching and Web searches in the U.S. consumed as much as 61 billion kilowatt-hours last year, or 1.5 percent of the nation's electricity—half of which comes from coal. In 2005 the computers of the world ate up 123 billion kilowatt-hours of energy, a number that will double by 2010 if present trends continue, according to Jonathan Koomey, a staff scientist at Lawrence Berkeley National Laboratory. As a result, the power bill to run a computer over its lifetime will surpass the cost of buying the machine in the first place giving Internet and computer companies a business reason to cut energy costs, as well as an environmental one.

{B} One of the biggest energy sinks comes not from the computers themselves but from the air-conditioning needed to keep them from overheating. For every kilowatt-hour of energy used for computing in a data center, another kilowatt-hour is required to cool the furnace like racks of servers.

{C} For Internet giant Google, this reality has driven efforts such as the installation of a solar array that can provide 30 percent of the peak power needs of its Mountain View, Calif., headquarters as well as increasing purchases of renewable energy. But to deliver Web pages within seconds, the firm must maintain hundreds of thousands of computer servers in cavernous buildings. "It's a good thing to worry about server energy efficiency," remarks Google's green energy czar Bill Weihl. "We are actively working to maximize the efficiency of our data centers, which account for most of the energy Google consumes worldwide." Google will funnel some of its profits into a new effort, dubbed RE<C (for renewable energy cheaper than coal, as Google translates it) to make sources such as solar-thermal, high-altitude wind and geothermal cheaper than coal "within years, not decades, according to Weihl. .

{D} In the meantime, the industry as a whole has employed a few tricks to save watts. Efforts include cutting down on the number of transformations the electricity itself must undergo before achieving the correct operating voltage; rearranging the stacks of servers and the mechanics of their cooling; and using software to create multiple "virtual" computers, rather than having to deploy several real ones. Such virtualization has allowed computer maker Hewlett-Packard to consolidate 86 data centers spread throughout the world to just three, with three backups, says Pat Tiernan, the firm's vice president of social and environmental responsibility.

{E} The industry is also tackling the energy issue at the computer-chip level. With every doubling of processing power in recent years has come a doubling in power consumption. But to save energy, chipmakers such as Intel and AMD have shifted to so-called multicore technology, which packs multiple processors into one circuit rather than separating them. "When we moved to multicore-away from a linear focus on megahertz and gigahertz—and throttled down microprocessors, the energy savings were pretty substantial," says Allyson Klein, Intel's

marketing manager for its Ecotech Initiative. Chipmakers continue to shrink circuits on the nanoscale as well, which means a chip needs less electricity" to deliver the same performance, she adds.

{F} With such chips, more personal computers will meet various efficiency standards, such as Energy Star compliance (which mandates that a desktop consume no more than 65 watts). The federal government, led by agencies such as NASA and the Department of Defense may soon require all their purchases to meet the Electronic Product Environmental Assessment Tool standard. And Google, Intel and others have formed the Climate Savers Computing Initiative, an effort to cut power consumption from all computers by 50 percent by 2010.

{G} Sleep modes and other power management tools built into most operating systems can offer savings today. Yet about 90 percent of computers do not have such settings enabled, according to Klein. Properly activated, they would prevent a computer from leading to the emission of thousands of kilograms of carbon dioxide from power plants every year. But if powering down or unplugging the computer (the only way it uses zero power) is not an option, then perhaps the most environmentally friendly use of all those wasted computing cycles is in helping to model climate change. The University of Oxford's ClimatePrediction.net offers an opportunity to at least predict the consequences of all that coal burning.

{H} CO2 Stats is a free tool that can be embedded into any Website to calculate the carbon dioxide emissions associated with using it. That estimate is based on an assumption of 300 watts of power consumed by the personal computer, network and server involved- or 16.5 milligrams of CO2 emitted every second of use. "The typical carbon footprint is roughly equivalent to 1.5 people breathing," says physicist Alexander Wissner-Gross of Harvard University, who co-created the Web tool.

Questions 1-6

Use the information in the passage to match the people (listed A-E) with opinions or deeds below. Write the appropriate letters A-E in boxes 1-6 on your answer sheet.

NB you may use any letter more than once

- (A) Jonathan Koomey
- (B) Allyson Klein
- (C) Pat Tiernan
- (D) Bill Weihl
- (E) Alexander Wissner-Gross

Question 1: Figuring ways to optimize the utilization of energy in certain significant departments in the company

Question 2: A revolutionary improvement in a tiny but quite imperative component of the computers

Question 3: Targeting at developing alternative sources within the near future

Question 4: An astounding estimate on the energy to be consumed by computers in a short period based on an unchangeable trend

Question 5: A powerful technique developed for integration of resources

Question 6: A failure for the vast majority of computers to activate the use of some internal tools already available in them

Questions 7-10

Do the following statements agree with the information given in Reading Passage 1? In boxes 7-10 on your answer sheet, write

True	if the statement is true
False	if the statement is false
NOT GIVEN	if there is no information about this in the passage

(7) To chill the server does not take up the considerable amount of energy needed for the computer.

(8) It seems that the number of the servers has a severe impact on the speed of the internet connection.

(9) Several companies from other fields have a joint effort with the internet industry to work on ways to save energy.

(10) Actions taken at a governmental level are to be expected to help with savings in energy in the near future.

Questions 11-14

Summary

Complete the following summary of the paragraphs of Reading Passage, using No More than three words from the Reading Passage for each answer. Write your answers in boxes 11-13 on your answer sheet.

The 11..... has also been reached to save up energy in every possible way and the philosophy behind it lies in the fact that there is a positive correlation between the ability to process and the need for energy. In this context, some firms have switched to 12..... which means several processors are integrated into one single circuit to make significant energy savings. What is more, they go on to 13..... on an even more delicate level for the chips to save more energy while staying at the constant level in terms of the 14.....

Reading Passage 2

Ancient SOCIETIES Classification

{A} Although humans have established many types of societies throughout history sociologists and anthropologists tend to classify different societies according to the degree to which different groups within a society have unequal access to advantages such as resources, prestige or power, and usually refer to four basic types of societies. From least to most socially complex they are clans, tribes, chiefdoms and states.

Clan

{B} These are small-scale societies of hunters and gatherers, generally of fewer than 100 people, who move seasonally to exploit wild (undomesticated) food resources. Most surviving hunter-gatherer groups are of this kind, such as the Hadza of Tanzania or the San of southern Africa. Clan members are generally kinsfolk, related by descent or marriage. Clans lack formal leaders, so there are no marked economic differences or disparities in status among their members.

{C} Because clans are composed of mobile groups of hunter-gatherers, their sites consist mainly of seasonally occupied camps, and other smaller and more specialised sites. Among the latter are kill or butchery sites-locations where large mammals are killed and sometimes butchered and work sites, where tools are made or other specific activities carried out. The base camp of such a group may give evidence of rather insubstantial dwellings or temporary shelters, along with the debris of residential occupation.

Tribe

{D} These are generally larger than mobile hunter-gatherer groups, but rarely number more than a few thousand, and their diet or subsistence is based largely on cultivated plants and domesticated animals. Typically, they are settled farmers, but they may be nomadic with a very different, mobile economy based on the intensive exploitation of livestock. These are generally multi-community societies, with the individual communities integrated into the large society through kinship ties. Although some tribes have officials and even a "capital" or seat of government, such officials lack the economic base necessary for effective use of power.

{E} The typical settlement pattern for tribes is one of settled agricultural homesteads or villages. Characteristically, no one settlement dominates any of the others in the region. Instead, the archaeologist finds evidence for isolated, permanently occupied houses or for permanent

villages. Such villages may be made up of a collection of free-standing houses, like those of the first farms of the Danube valley in Europe. Or they may be clusters of buildings grouped together, for example, the pueblos of the American Southwest, and the early farming village or small town of Catalhoyuk in modern Turkey.

Chiefdom

{F} These operate on the principle of ranking-differences in social status between people. Different lineages (a lineage is a group claiming descent from a common ancestor) are graded on a scale of prestige, and the senior lineage, and hence the society as a whole, is governed by a chief. Prestige and rank are determined by how closely related one is to the chief, and there is no true stratification into classes. The role of the chief is crucial.

{G} Often, there is local specialisation in craft products, and surpluses of these and of foodstuffs are periodically paid as an obligation to the chief. He uses these to maintain his retainers, and may use them for redistribution to his subjects. The chiefdom generally has a center of power, often with temples, residences of the chief and his retainers, and craft specialists. Chiefdoms vary greatly in size, but the range is generally between about 5000 and 20,000 persons.

Early State

{H} These preserve many of the features of chiefdoms, but the ruler (perhaps a king or sometimes a queen) has explicit authority to establish laws and also to enforce them by the use of a standing army. Society no longer depends totally upon kin relationships: it is now stratified into different classes. Agricultural workers and the poorer urban dwellers form the lowest classes, with the craft specialists above, and the priests and kinsfolk of the ruler higher still. The functions of the ruler are often separated from those of the priest: the palace is distinguished from the temple. The society is viewed as a territory owned by the ruling lineage and populated by tenants who have an obligation to pay taxes. The central capital houses a bureaucratic administration of officials; one of their principal purposes is to collect revenue (often in the form of taxes and tolls) and distribute it to government, army and craft specialists. Many early states developed complex redistribution systems to support these essential services.

{I} This rather simple social typology, set out by Elman Service and elaborated by William Sanders and Joseph Marino, can be criticised, and it should not be used unthinkingly. Nevertheless, if we are seeking to talk about early societies, we must use words and hence concepts to do so. Service's categories provide a good framework to help organise our thoughts.

Questions 15-21

Do the following statements agree with the information given in Reading Passage 1? In boxes 15-21 on your answer sheet, write

True	if the statement is true
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False	if the statement is false
NOT GIVEN	if there is no information about this in the passage

(15) There's little economic difference between members of a clan.

(16) The farmers of a tribe grow a wide range of plants.

(17) One settlement is more important than any other settlement in a tribe.

(18) A member's status in a chiefdom is determined by how much land he owns.

(19) There are people who craft goods in chiefdoms.

(20) The king keeps the order of a state by keeping a military

(21) Bureaucratic officers receive higher salaries than other members.

Questions 22-27

Answer the questions below. Choose **NO MORE THAN TWO WORDS** from the passage for each answer. Write your answers in boxes 22-27 on your answer sheet.

(22) What are made at the clan work sites?

(23) What is the other way of life for tribes besides settled farming?

(24) How are Catalhoyuk's housing units arranged?

(25) What does a chief give to his subjects as rewards besides crafted goods?

(26) What is the largest possible population of a chiefdom?

(27) Which group of people is at the bottom of an early state but higher than the farmers?

Passage 3

Economic Evolution

{A} Living along the Orinoco River that borders Brazil and Venezuela are the Yanomam people, hunter-gatherers whose average annual income has been estimated at the equivalent of \$90 per person per year. Living along the Hudson River that borders New York State and New Jersey are the Manhattan people, consumer traders whose average annual income has been estimated at \$36,000 per person per year. That dramatic difference of 400 times, however, pales

in comparison to the differences in Stock Keeping Units (SKUs, a measure of the number of types of retail products available), which has been estimated at 300 for the Yanomami and 10 billion for the Manhattans, a difference of 33 million times.

{B} How did this happen? According to economist Eric D. Beinhocker, who published these calculations in his revelatory work *The Origin of Wealth* (Harvard Business School Press, 2006), the explanation is to be found in complexity theory. Evolution and economics are not just analogous to each other, but they are actually two forms of a larger phenomenon called complex adaptive systems, in which individual elements, parts or agents interact, then process information and adapt their behavior to changing conditions. Immune systems, ecosystems, language, the law and the Internet are all examples of complex adaptive systems.

{C} In biological evolution, nature selects from the variation produced by random genetic mutations and the mixing of parental genes. Out of that process of cumulative selection emerges complexity and diversity. In economic evolution, our material economy proceeds through the production and selection of numerous permutations of countless products. Those 10 billion products in the Manhattan village represent only those variations that made it to market, after which there is a cumulative selection by consumers in the marketplace for those deemed most useful: VHS over Betamax, DVDs over VHS, CDs over vinyl records, flip phones over brick phones, computers over typewriters, Google over Altavista, SUVs over station wagons, paper books over e-books (still), and Internet news over network news (soon). Those that are purchased "survive" and "reproduce" into the future through repetitive use and remanufacturing.

{D} As with living organisms and ecosystems, the economy looks designed—so just as Humans naturally deduce the existence of a top-down intelligent designer, humans also (understandably) infer that a top-down government designer is needed in nearly every aspect of the economy. But just as living organisms are shaped from the bottom up by natural selection, the economy is molded from the bottom up by the invisible hand. The correspondence between evolution and economics is not perfect, because some top-down institutional rules and laws are needed to provide a structure within which free and fair trade can occur. But too much top-down interference into the marketplace makes trade neither free nor fair. When such attempts have been made in the past, they have failed—because markets are far too complex, interactive and autocatalytic to be designed from the top down. In his 1922 book, *Socialism*, Ludwig Von Mises spelled out the reasons why, most notably the problem of "economic calculation" in a planned socialist economy. In capitalism, prices are in constant and rapid flux and are determined from below by individuals freely exchanging in the marketplace. Money is a means of exchange, and prices are the information people use to guide their choices. Von Mises demonstrated that socialist economies depend on capitalist economies to determine what prices should be assigned to goods and services. And they do so cumbersomely and inefficiently. Relatively free markets are, ultimately, the only way to find out what buyers are willing to pay and what sellers are willing to accept.

{E} Economics helps to explain how Yanomami-like hunter-gatherers evolved into Manhattan-like consumer-traders. In the Nineteenth century French economist Frédéric Bastiat well captured the principle: "Where goods do not cross frontiers, armies will." In addition to being fierce warriors, the Yanomami are also sophisticated traders, and the more they trade the less they fight. The reason is that trade is a powerful social adhesive that creates political alliances. One village cannot go to another village and announce that they are worried about being conquered by a third, more powerful village—that would reveal weakness. Instead they mask the real motives for alliance through trade and reciprocal feasting. And, as a result, not only gain military protection but also initiate a system of trade that—in the long run—leads to an increase in both wealth and SKUs.

{F} Free and fair trade occurs in societies where most individuals interact in ways that provide mutual benefit. The necessary rules weren't generated by wise men in a sacred temple, or lawmakers in congress, but rather evolved over generations and were widely accepted and practiced before the law was ever written. Laws that fail this test are ignored. If enforcement becomes too onerous, there is rebellion. Yet the concept that human interaction must, and can be controlled by a higher force is universal. Interestingly, there is no widespread agreement on who the "higher force" is. Religious people ascribe good behavior to God's law. They cannot conceive of an orderly society of atheists. Secular people credit the government. They consider anarchy to be synonymous with barbarity. Everyone seems to agree on the concept that orderly society requires an omnipotent force. Yet, everywhere there is evidence that this is not so. An important distinction between spontaneous social order and social anarchy is that the former is developed by work and investment, under the rule of law and with a set of evolved morals while the latter is chaos. The classical liberal tradition of von Mises and Hayek never makes the claim that the complete absence of top-down rules leads to the optimal social order. It simply says we should be skeptical about our ability to manage them in the name of social justice, equality, or progress.

Questions 28-32

Do the following statements agree with the information given in Reading Passage 1? In boxes 28-32 on your answer sheet, write

True	if the statement is true
False	if the statement is false
NOT GIVEN	if there is no information about this in the passage

- (28) SKUs is a more precise measurement to demonstrate the economic level of a community.
- (29) No concrete examples are presented when the author makes the statement concerning economic evolution.
- (30) Evolution and economics show a defective homolog.
- (31) Martial actions might be taken to cross the borders if trades do not work.
- (32) Profit is the invisible hand to guide the market.

Questions 33-35

Choose the correct letter, A, B, C or D. Write your answers in boxes 6-8 on your answer sheet.

Question 33: What ought to play a vital role in each field of the economy?

- (A) a strict rule
- (B) a smart strategy
- (C) a tightly managed authority
- (D) a powerful legislation

Question 34-35: Which **two** of the following tools are used to pretend to ask for union according to one explanation from the perspective of economics

- (A) an official announcement
- (B) a diplomatic event
- (C) the exchange of goods
- (D) certain written correspondence
- (E) some enjoyable treatment in a win-win situation

Questions 36-40

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than three words from the Reading Passage for each answer. Write your answers in boxes 36-40 on your answer sheet.

In response to the search for reasons for the phenomenon shown by the huge difference in the income between two groups of people both dwelling near the rivers, several researchers made their effort and gave certain explanations. One attributes36..... to the interesting change claiming that it is not as simple as it seems to be in appearance that the relationship between37..... which is a good example of38....., which involved in the interaction of separate factors for the processing of information as well as the behavioral adaptation to unstable conditions. As far as the biological transformation is concerned, both39..... and the blend of genes from the last generation bring about the difference. The economic counterpart shows how generating and choosing the40..... of innumerable goods moves forward the material-oriented economy.

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