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IELTS READING (BENJAMIN BROWN) TEST 001

READING PASSAGE 1

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

AMBERGRIS

The name ambergris is derived from the Spanish " ambar gris", ambar meaning amber and gris meaning grey, thus the name signifies grey amber. The use of ambergris in Europe is now entirely confined to perfumery—as a material of perfumery. Its high price varies from \$15 to \$25 an ounce, though it formerly occupied on inconsiderable place in medicine. Ambergris was also decorated and worn as jewelry, particularly during the Renaissance. It occupies a very important place in the perfumery of the East, and there it is also used in pharmacy, and as a flavouring material in cookery.

Amber, however, is quite a different substance from ambergris and this discrepancy has puzzled some people. Amber is the fossilized resin from trees that was quite familiar to Europeans long before the discovery of the New World, and prized for jewelry. Although considered a gem. amber is a hard, transparent, wholly-organic material derived from the resin of extinct species of trees. In the dense forests of the Middle Cretaceous and Tertiary periods, between 10 and 100 million years ago, these resin-bearing trees fell and were carried by rivers to coastal regions. There, the trees and their resins became covered with sediment, and over millions of years the resin hardened into amber.

Ambergris and amber are related by the fact that both wash up on beaches. Ambergris is a solid, waxy, flammable substance of a dull grey or blackish color, with the shades being variegated like marble. It possesses a peculiar sweet, earthy odour not unlike isopropyl alcohol. It is now known to be a morbid secretion formed in the intestines of the sperm whale, found in the Atlantic and Pacific oceans. Being a very lightweight material, ambergris is found floating upon the sea, on the sea-coast, or in the sand near the sea-coast. It is met with in the Atlantic Ocean, on the coasts of Brazil and Madagascar; also on the coast of Africa, of the East Indies. China. Japan, and the Molucca Islands; but most of the ambergris which is brought to England comes from the Bahama Islands. It is also sometimes found in the abdomen of whales, always in tumps in various shapes and sizes, weighing from 1/2 oz. to 100 or more lb. A piece which the Dutch East India Company bought from the King of Tydore weighed 182 lb. An American fisherman from Antigua found, inside a whale, about 52 leagues southeast from the Windward Islands, a piece of ambergris which weighed about 130 lb, and sold for 500 sterling.

Like many other substances regarding the origin of which there existed some obscurity or mystery, ambergris in former times possessed a value, and had properties attributed to it, more on account of the source from which it was drawn than from its inherent qualities. Many ridiculous hypotheses were started to account for its origin, and among others it was conjectured to be the solidified foam of the sea, a fungous growth in the ocean similar to the fungi which form on trees.

The true source and character of ambergris was first satisfactorily established by Dr. Swediaur in a communication to the Royal Society. It was found by Dr. Swediaur that ambergris very frequently contained the horny mandibles or beaks of the squid, on which the sperm whales are known to feed. That observation, in connection with the fact of ambergris being frequently taken from the intestines of the sperm whale, sufficiently proved that the substance is produced by the whale's intestine as a means of facilitating the passage of undigested hard, sharp beaks of squid that the whale has eaten.

It was further observed that the whales in which ambergris was found were either dead or much wasted and evidently in a sickiy condition. From this it was inferred that ambergris is in some way connected with a morbid condition of the sperm whale. Often expelled by vomiting, ambergris floats in chunks on the water and is of a deep grey colour, soft consistence, and an offensive, disagreeable smell. Following months to years of photo-degradation and oxidation in the ocean, this precursor gradually hardens, developing a dark grey or black colour, a crusty and waxy texture, and a peculiar odour that is at once sweet, earthy, marine, and animalist. Its smell has been described by many as a vastly richer and smoother version of isopropanol without its stinging harshness.

In that condition its specific gravity ranges from 0.780 to 0.926. It melts at a temperature of about 145F into a fatty yellow resin-like liquid. It is soluble in ether, volatile and fixed oils, but only feebly acted on by acids. By digesting in hot alcohol, a peculiar substance termed ambrein is obtained. In chemical constitution ambrein very closely resembles cholesterin, a principle found abundantly in biliary calculi. It is therefore more than probable that ambergris, from the position in which it is found and its chemical constitution, is a biliary concretion analogous to what is formed in other mammals.

The industries founded on ambergris resulted in the slaughter of sperm whales almost to extinction. Sperm whales were killed in two massive hunts, the Moby Dick whalers who worked mainly between 1740-1880, and the modern whalers whose operations peaked in1964, when 29,255 were killed. Most recent estimates suggest a global population of about 360,000 animals down from about 1,100,000 before whaling. In the 20th century, 90% of ambergris was derived in the processing of killing sperm whales. To this day, ambergris is still the most expensive product in the whole body of sperm whale. Depending on its quality, raw ambergris fetches approximately 20 USD per gram. In the United States, possession of any part of an endangered species including ambergris that has washed ashore is a violation of the Endangered Species Act of 1978.

Historicaily, the primary commercial use of ambergris has been in fragrance chemistry. However, it is difficult to get a consistent and reliable supply of high quality ambergris. Due to demand for ambergris and its high price, replacement compounds have been sought out by the fragrance industry and chemically synthesized. The most important of these is Ambrox, which has taken its place as the most widely used amber odorant in perfume manufacture. Procedures for the microbial production of Ambrox have also been devised.

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Questions 1-5

Class	ify the following statements as applying to	1.	verv costly
A	Ambergris only	2.	used in medicine
В	Amber only	3.	used as currency
С	Both amber and ambergris	4.	wash up on beaches
D	Neither amber nor ambergris	5	could be seen through

Questions 6-9

Complete the summon of how ambergris forms. Choose ONE WORD from the passage for each answer.

According to Dr. Swediaur, ambergris is produced by the whale	s6_	to help the sperm whale digest7of
squid. Often by8, the sick sperm whale expels am	bergris	. Ambergris then floats on the sea. When exposed in the
air, ambergris9gradually. And it has washed	ashore	e finally.

Questions 10-13

Do the following statements agree with the information given in Reading Passage 1? In boxes **10-13** on your answer sheet write **TRUE** if the statement is true

FALSE if the statement is false

NOT GIVEN if the information is not given in the passage.

- 10. Ambergris is now used in perfumery and medicine in Europe.
- 11. In the 20th century most ambergris was obtained in the process of killing sperm whales.
- 12. In the US, it is illegal for a person to collect ambergris even though it has washed on the beach.
- 13. As a substitute for ambergris, Ambrox boasts the same properties as ambergris.

READING PASSAGE 2

You should spend about 20 minutes on **Questions 14-26** which are based on Reading Passage 2 below.

Questions 14-18 Reading Passage 2 has 9 paragraphs A- I. From the list of headings below choose the 5 most suitable headings for paragraphs A, B, E, G and H.

Write the appropriate numbers (i-x). NB There are more headings than paragraphs, so you will not use them alt.

List of Headings

- i Seasonal Economies
- ii Illness can change the age structure
- iii Two factors in wealth brought by a famous economist
- iv Temperate represents wealthy
- v Post World War II performance
- vi The moderate climate leads to more innovation
- vii Political institutions affect economies
- viii Physical geography and climate count
- ix Revamping Aid Programs
- x Free-market economy the key

14.	Paragraph A
15.	Paragraph B
16.	Paragraph E
17.	Paragraph G
18.	Paragraph H

cumate and Country Wealth



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A. Why are some countries stupendously rich and others horrendously poor'.-1 Social theorists have been captivated by this question since the late 18th century, when Scottish economist Adam Smith argued in his magisterial work The Wealth of Nations that the best prescription for prosperity is a free-market economy in which the government allows businesses substantial freedom to pursue profits. Smith, however, made a second notable hypothesis: that the physical geography of a region can influence its economic performance. He contended that the economies of coastal regions, with their easy access to sea trade, usually outperform the economies of inland areas.

B. Coastal regions and those near navigable waterways are indeed far richer and more densely settled than interior regions, just as Smith predicted. Moreover, an area's climate can also affect its economic development. Nations in tropical climate zones generally face higher rates of infectious disease and lower agricultural productivity (especially for staple foods) than do nations in temperate zones. Similar burdens apply to the desert zones. The very poorest regions in the world are those saddled with both handicaps **■** distance from sea trade and a tropical or desert ecology. The basic lessons of geography are worth repeating, because most economists have ignored them. In the past decade the vast majority of papers on economic development have neglected even the most obvious geographical realities.

C. The best single indicator of prosperity is gross national product (GNP) per capita the total value of a country's economic output, divided by its population. A map showing the world distribution of GNP per capita immediately reveals the vast gap between rich and poor nations. The great majority of the poorest countries lie in the geographical tropics. In contrast, most of the richest countries lie in the temperate zones. Among the 28 economies categorized as high income by the World Bank, only Hong Kong, Singapore and part of Taiwan are in the tropical zone, representing a mere 2 percent of the combined population of the high-income regions. Almost all the temperate-zone countries have either high-income economies (as in the cases of North America, Western Europe, Korea and Japan) or middle-income economies (as in the cases of Eastern Europe, the former Soviet Union and China). In addition, there is a strong temperate-tropical divide within countries that straddle both types of climates. Most of Brazil, for example, lies within the tropical zone, but the richest part of the nation—the southernmost states—is in the temperate zone.

D. There are two major ways in which a region's climate affects economic development. First, it affects the prevalence of disease. Many kinds of infectious diseases are endemic to the tropical and subtropical zones. This tends to be true of diseases in which the pathogen spends part of its life cycle outside the human host: for instance, malaria (carried by mosquitoes) and helminthic infections (caused by parasitic worms). Although epidemics of malaria have occurred sporadically as far north as Boston in the past century, the disease has never gained a lasting foothold in the temperate zones, because the cold winters naturally control the mosquito-based transmission of the disease. Winter could thus be considered the world's most effective public health intervention. It is much more difficult to control malaria in tropical regions, where transmission takes place year-round and affects a large part of the population.

E. According to the World Health Organization, 300 million to 500 million new cases of malaria occur every year, almost entirely concentrated in the tropics. Widespread illness and early deaths obviously hold back a nation's economic performance by significantly reducing worker productivity. But there are also long-term effects that may be amplified over time through various social feedbacks. A high incidence of disease can alter the age structure of a country's population. Societies with high levels of child mortality tend to have high levels of fertility; mothers bear many children to guarantee that at least some will survive to adulthood. Young children will therefore constitute a large proportion of that country's population . With so many children, poor families cannot invest much in each child's education. High fertility also constrains the role of women in society, because child rearing takes up so much of their adult lives.

F. Moreover, temperature affects agricultural productivity. Of the major food grains wheat, maize and rice -wheat grows only in temperate climates, and maize and rice crops are generally more productive in temperate and subtropical climates than in tropical zones. On average, a hectare of land in the tropics yields 2.3 metric tons of maize, whereas a hectare in the temperate zone yields 6.4 tons. Farming in tropical rainforest environments is hampered by the fragility of the soil: high temperatures mineralize the organic materials, and the intense rainfall leaches them out of the soil. In tropical environments that have wet and dry seasons—such as the African savanna-farmers must contend with the rapid loss of soil moisture resulting from high temperatures, the great variability of precipitation, and the ever present risk of drought. Moreover, tropical environments are plagued with diverse infestations of pests and parasites that can devastate both crops and livestock.

G. Moderate advantages or disadvantages in geography can lead to big differences in long-term economic performance. Favorable agricultural or health conditions may boost per capita income in temperate-zone nations and hence increase the size of their economies. The resulting inventions further raise economic output, spurring yet more inventive activity. The moderate geographical advantage is thus amplified through innovation. In contrast, the low food oulput per farm worker in tropical regions tends to diminish the size of cities. With a smaller proportion of the population in urban areas, the rate of technological advance is usually slower. The tropical regions therefore remain more rural than the temperate regions, with most of their economic activity concentrated in low-technology agriculture rather than in high-technology manufacturing and services.

H. Geographical factors, however, are only part of the story. Social and economic institutions are critical to long-term economic performance. It is particularly instructive to compare the post World War II performance of socialist and free-market economies in neighboring countries that share the same geographical characteristics; North and South Korea, East and West Germany, the Czech i Republic and Austria, and Estonia and Finland. In each case we find that free-market institutions vastly outperformed their counterparts,

I. If these findings are true, the policy implications are significant. Aid programs for developing countries will have to be revamped to specifically address the problems imposed by climate and geography. In particular, new strategies have to be formulated that would help nations in tropical zones raise their agricultural productivity and reduce the prevalence of diseases such as malaria.

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Questions 19-23

Match together the following sentence halves.

- Write the appropriate letter A-M in boxes 19-23 on your answer sheet.
- The southernmost states of Brazil are the riches part of the nation 19.
- 20. Many kinds of infectious diseases are less prevalent in the temperate zones
- In a tropical country with a high incidence of disease, poor families cannot afford each child' s education 21.
- 22. The agricultural productivity is considerably low in tropical rainforest environments
- The tropical regions remain more rural than the temperate regions 23.
- Α because pathogen of diseases spends part of its life cycle outside the human host.
- В because high fertility affects a woman's role in society by focusing on her responsibilities for child rearing.
- С because mothers bear many children to assure that some will survive to adulthood.
- D because high levels of child mortality tend to baffle mothers' investments.
- Ε because low food output results in diminished city sizes, thus decreasing the rate of technological advance.
- F because they straddle both types of climates.
- because malaria is carried by mosquitoes and helminthic infections is caused by parasitic worms. G
- because they lie in the temperate zone.
- because intense rainfall and high temperatur leach the organic material from the soil.
- because tropical environments are plagued with diverse infestations of pests and parasites that can devastate livestock.
- Κ because temperate zones are more likely to boost individual incomes.
- because winters control the mosquito-based transmission of the disease.
- Μ because people living in the moderate climate are more willing to try new technology.

Questions 24-26

Complete the sentence below (Questions 24-26) with words taken from Reading Passage 2.

Use NO MORE THAN THREE WORDS for each blank. Write your answers in boxes 24-26 on your answer sheet.

- Name three regions thai are in the tropic zone hut wealthy. 24
- Name two major ways in which a region's climate affects economic development. ,and 25
- In the cases of Estonia and Finland, which country economically performed better after World War Two? 26

READING PASSAGE 3 You should spend about 20 minutes on Questions 27-40 which are based on Reading Passage 3 below.

and

RFID

What Is RFID

An emerging technology could usurp the ubiquitous bar code's quarter-century of quiet domination. Radio frequency identification (RFID) tags, which consist of silicon chips and an antenna that can transmit data to a wireless receiver, could one day be used to track everything from soda cans to cereal boxes. Unlike bar codes, which need to be scanned manually and read individually * (you have to actually see a bar code in order to read it), radio ID tags do not | require line-of-sight for reading. Within the field of a wireless reading device, it * *' is possible to automatically read hundreds of tags a second. "This is the basis -t> 1 of the next 50 years of computing," said Kevin Ashton, executive director of \$ MIT's Auto-ID Center. "The impact will be staggering.

How It Works

An RFID system may consist of several components; tags/transponders, tag readers, antenna, and interface. In a typical RFID system, individual objects I are equipped with a small, inexpensive tag. The tag contains a transponder % with a digital memory chip that is given a unique electronic product code. The j interrogator, an antenna packaged with a transceiver and decoder, emits a | signal activating the RFID tag so it can read and write data to it. When an RFID tag passes through the electromagnetic zone, it detects the reader's activation signal. The reader decodes the data encoded in the tag's integrated circuit % (silicon chip) and the data is passed to the host computer. The application software on the host processes the data, and may perform various filtering operations to reduce the numerous often redundant reads of the same tag to a smaller and more useful data set

Passive and Active Tags

Transmitting in the kilohertz, megahertz and gigahertz ranges, tags may be battery-powered or derive thdr power from the RF waves coming from the reader. " Passive" tags have no power source but use the electromagnetic waves from the reader to energize the chip and transmit back, or backscatter, their data. Passive tags can cost less than a quarter and be read up to approximately 10 feet from the reader's antenna. "Active" tags have a battery 4 that can transmit up to 300 feet indoors and more than a thousand feet outdoors. Used for tracking trailers in yards and containers on the loading I dock, active tags cost several dollars and may periodically transmit a signal for I readers to pick up or may lie dormant until they sense the reader's signal. **Reusable Vs. One-Time**

RFID tags for applications such as highway toll collection and container tracking are in continuous use for several years. Like regular electronic \$ components, the tags are adhered to rigid substrates and packaged in plastic enclosures. In contrast, tags on

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shipping cartons are used for a much shorter time and are then destroyed. Disposable tags are adhered to printed, flexible 1 labels pasted onto the carton, and these "smart labels" contain an RFID clip and antenna on the back. A thermal printer/encoder prints alphanumeric and bar code data on the labels while encoding the chip at the same time.

Originated in the 1940s, when the U. S. government used transponders to distinguish friendly aircraft from enemy aircraft, RFID systems now can tell how many beers you had while watching an NBA match, what library books you've checked out from the public library, and where and when you £ purchased your Michelin tires. In the near future, they may be used to track | prescription drugs and embedded into patients to tell doctors about their I medical conditions. The Department of Defense is using RFID to track supplies £ and troops, and the State Department is planning to implant RFID chips into new and renewed passports. More than a dozen retail companies have gone public with plans to use RFID in their operations." There's a general £' acknowledgment that this technology is here to stay. It's not just a science 1 experiment," said Christine Overby, senior analyst at Forrester Research.

Next Technology Wave

RFID technology has existed for decades, but retailer and government 1 mandates are pushing it forward. If it can overcome substantial technical and £ social challenges, it has the potential to transform business and sow the seeds of the next technology wave. MIT's Auto-ID Center is developing ways to use the tags in consumer product packages with blue chip companies such as Procter &Gamble. Wal-Mart, Gillette, Unilever, Target, Pepsi and Coca-Cola. £ Retailing behemoths such as Wal-Mart and Home Depot are investing heavily in * Auto-ID's technology to improve supply-chain efficiency and track products \$ from the warehouse to the consumer's doorstep. "The supply chain today is a £ black box," Ashton said. "There is very little accurate data about where things | are, what they are, and how much there is." "This technology won't just £ improve the supply chain it will revolutionize it in ways we are only just | beginning to understand," Ashton said. "Computers are basically blind today, The technology we are developing will enable them to see, for the first time.

RFID and the Internet

The success of RFID in the mass market ultimately depends upon tying the technology to an open standard network like the Internet, according to researchers. Companies will also be able to use smart tags to connect everyday objects to the Internet, potentially saving billions of dollars in lost, stolen or wasted products. For example, a smart-shelf could tell when a carton of milk or a box of medicine has expired, alerting a store to restock in real time. This type of system could prevent out-of-stock erchandise and reduce obsolete or out-of-date products. "The Internet is absolutely crucial for all this," Ashton said. "The Internet enables us to put all the data on the network, not the tag, and that makes tags cheaper, better, faster.

Questions 27-29

The diagram below shows how RFID works. Choose **NO MORE THAN THREE** WORDS from the passage for each answer. Write your answers in **boxes 27—29** on your answer sheet.



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Questions 30-33

30.

Do the following statements agree with the information given in Reading Passage 3? In boxes 30-33 on your answer sheet write if the statement is true TRUE

- if the statement is false FALSE
- NOT GIVEN if the information is not given in the passage.
- The RFID tags mid their predecessor are essentially tracking devices.
- Although RFID tags communicate a variety of information, this information requires processing and analysis, thus making 31. the computer indispensable.
- The RFID gained its early funding sources in the Department of Defense. 32.
- 33. More than six retail companies have gone public with FRID tags.

Questions 34-36

Choose the appropriate letters A-D and write them in boxes 34-36 on your answer sheet.

- 34 The greatest difference between bar codes and RFID is А price.
 - В transmission technology.
 - С commercial use. D size.
- 35 In what areas have the tags already been implemented?
 - Supermarkets and grocers. Passports and ID cards. В
 - Medicines and prescriptions. D Highway toll collection. С
- 36 The term "black box" in the current supply chain refers to a unit that
 - A stores information. B scrambles information.
 - С organizes information. D produces information.

Questions 37-40

А

Complete the sentences below with words taken from the reading passage. Use NO MORE THAN THREE WORDS for each answer. Write your answers in boxes 37-40 on your answer sheet.

- 38 Transponders were used to military applicationsincoming and outgoing aircraft in
- **39** The general consensus at Forrester Research is that this technology is.....
- 40 Procter & Gamble, Wal-Mart, Gillette, Unilever, and Target are large multinational corporations known as companies.