IELTSFever Academic IELTS Reading Test 107

Reading Passage 1

You should spend about 20 minutes on Questions 1-13, which are based on the IELTSFever Academic IELTS Reading Test 107 Reading Passage SOSUS: Listening to the Ocean below.

SOSUS: Listening to the Ocean

{A} The oceans of Earth cover more than 70 percent of the planet's surface, yet, until quite recently, we knew less about their depths than we did about the surface of the Moon. Distant as it is, the Moon has been far more accessible to study because astronomers long have been able to look at its surface, first with the naked eye and then with the telescope-both instruments that focus light. And, with telescopes tuned to different wavelengths of light, modern astronomers cannot only analyze Earth's atmosphere, but also determine the temperature and composition of the Sun or other stars many hundreds of light-years away. Until the twentieth century, however, no analogous instruments were available for the study of Earth's oceans: Light, which can travel trillions of miles through the vast vacuum of space, cannot penetrate very far in seawater.

{B} Curious investigators long have been fascinated by sound and the way it travels in water. As early as 1490, Leonardo da Vinci observed: "If you cause your ship to stop and place the head of a long tube in the water and place the outer extremity to your ear, you will hear ships at a great distance from you." In 1687, the first mathematical theory of sound propagation was published by Sir Isaac Newton in his Philosophiae Naturalis Principia Mathematica. Investigators were measuring the speed of sound in air beginning in the mid seventeenth century, but it was not until 1826 that Daniel Colladon, a Swiss physicist, and Charles Sturm, a French mathematician, accurately measured its speed in water. Using a long tube to listen underwater (as da Vinci had suggested), they recorded how fast the sound of a submerged bell traveled across Lake Geneva. Their result-1,435 meters (1,569 yards) per second in water of 1.8 degrees Celsius (35 degrees Fahrenheit)- was only 3 meters per second off from the speed accepted today. What these investigators demonstrated was that water whether fresh or salt- is an excellent medium for sound, transmitting it almost five times faster than its speed in air

{C} In 1877 and 1878, the British scientist John William Strutt, third Baron Rayleigh, published his two-volume seminal work, The Theory of Sound, often regarded as marking the beginning of the modern study of acoustics. The recipient of the Nobel Prize for Physics in 1904 for his successful isolation of the element argon, Lord Rayleigh made key discoveries in the fields of acoustics and optics that are critical to the theory of wave propagation in fluids. Among other things, Lord Rayleigh was the first to describe a sound wave as a mathematical equation (the basis of all theoretical work on acoustics) and the first to describe how small particles in the atmosphere scatter certain wavelengths of sunlight, a principle that also applies to the behavior of sound waves in water.

{D} A number of factors influence how far sound travels underwater and how long it lasts. For one, particles in seawater can reflect, scatter, and absorb certain frequencies of sound—just as certain wavelengths of light may be reflected, scattered, and absorbed by specific types of particles in the atmosphere. Seawater absorbs 30 times the amount of sound absorbed by distilled water, with specific chemicals (such as magnesium sulfate and boric acid) damping out certain frequencies of sound. Researchers also learned that low frequency sounds, whose long wavelengths generally pass over tiny particles, tend to travel farther without loss through absorption or scattering. Further work on the effects of salinity, temperature, and pressure on the speed of sound has yielded fascinating insights into the structure of the ocean. Speaking generally, the ocean is divided into horizontal layers in which sound speed is influenced more greatly by temperature in the upper regions and by pressure in the lower depths. At the surface is a sun-warmed upper layer, the actual temperature and thickness of which varies with the season. At mid-latitudes, this layer tends to be isothermal, that is, the temperature tends to be uniform throughout the layer because the water is well mixed by the action of waves, winds, and convection currents; a sound signal moving down through this layer tends to travel at an almost constant speed. Next comes a transitional layer called the thermocline, in which temperature drops steadily with depth; as temperature falls, so does the speed of sound.

{E} The U.S. Navy was quick to appreciate the usefulness of low-frequency sound and the deep sound channel in extending the range at which it could detect submarines. In great secrecy during the 1950s, the U.S. Navy launched a project that went by the code name Jezebel; it would later come to be known as the Sound Surveillance System (SOSUS). The system involved arrays of underwater microphones, called hydrophones, that were placed on the ocean bottom and connected by cables to onshore processing centers. With SOSUS deployed in both deep and shallow waters along both coasts of North America and the British West Indies, the U.S. Navy not only could detect submarines in much of the northern hemisphere, it also could distinguish how many propellers a submarine had, whether it was conventional or nuclear, and sometimes even the class of sub.

{F} The realization that SOSUS could be used to listen to whales also was made by Christopher Clark, a biological acoustician at Cornell University, when he first visited a SOSUS station in 1992. When Clark looked at the graphic representations of sound, scrolling 24 hours day, every day, he saw the voice patterns of blue, finback, minke, and humpback whales. He also could hear the sounds. Using a SOSUS receiver in the West Indies, he could hear whales that were 1,770 kilometers (1,100 miles) away. Whales are the biggest of Earth's creatures. The blue whale, for example, can be 100 feet long and weigh as many tons. Yet these animals also are remarkably elusive. Scientists wish to observe blue time and position them on a map. Moreover, they can track not just one whale at a time, but many creatures simultaneously throughout the North Atlantic and the eastern North Pacific. They also can learn to distinguish whale calls. For example, Fox and colleagues have detected changes in the calls of finback whales during different seasons and have found that blue whales in different regions of the Pacific ocean have different calls. Whales firsthand must wait in their ships for the whales to surface. A few whales have been tracked briefly in the wild this way but not for very great distances, and much about them remains unknown. Using the SOSUS stations, scientists can track the whales in real time and position them on a map. Moreover, they can track not just one whale at a time, but many

creatures simultaneously throughout the North Atlantic and the eastern North Pacific. They also can learn to distinguish whale calls. For example, Fox and colleagues have detected changes in the calls of finback whales during different seasons and have found that blue whales in different regions of the Pacific Ocean have different calls.

{G} SOSUS, with its vast reach, also has proved instrumental in obtaining information crucial to our understanding of Earth's weather and climate. Specifically, the system has enabled researchers to begin making ocean temperature measurements on a global scale, measurements that are keys to puzzling out the workings of heat transfer between the ocean and the atmosphere. The ocean plays an enormous role in determining air temperature—the heat capacity in only the upper few meters of ocean is thought to be equal to all of the heat in the entire atmosphere. For sound waves traveling horizontally in the ocean, speed is largely a function of temperature. Thus, the travel time of a wave of sound between two points is a sensitive indicator of the average temperature along its path. Transmitting sound in numerous directions through the deep sound channel can give scientists measurements spanning vast areas of the globe. Thousands of sound paths in the ocean could be pieced together into a map of global ocean temperatures and, by repeating measurements along the same paths over time, scientists could track changes in temperature over months or years.

{H} Researchers also are using other acoustic techniques to monitor climate. Oceanographer Jeff Nystuen at the University of Washington, for example, has explored the use of sound to measure rainfall over the ocean. Monitoring changing global rainfall patterns undoubtedly will contribute to understanding major climate change as well as the weather phenomenon known as El Niño. Since 1985, Nystuen has used hydrophones to listen to rain over the ocean, acoustically measuring not only the rainfall rate but also the rainfall type, from drizzle to thunderstorms. By using the sound of rain underwater as a "natural" rain gauge, the measurement of rainfall over the oceans will become available to climatologists.

Questions 1-4

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1-4 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

(1) In the past, difficulties of research carried out on Moon were much easier than that of ocean.

(2) The same light technology used on investigation of moon can be employed in the field of ocean.

(3) Research on the depth of the ocean by method of sound waves is more time-consuming.

(4) Hydrophones technology is able to detect the category of precipitation.

Questions 5-8

The reading Passage has seven paragraphs A-H.

Which paragraph contains the following information?

Write the correct letter A-H, in boxes 5-8 on your answer sheet.

NB You may use any letter more than once

(5) Elements affect sound transmission in the ocean.

(6) Relationship between global climate and ocean temperature

(7) Examples of how sound technology help people research ocean and creatures in it

(8) Sound transmission underwater is similar to that of light in any condition.

Questions 9-13

Choose the correct letter, A, B, C or D.

Write your answers in boxes 9-13 on your answer sheet.

Question 9: Who of the following is dedicated to the research of rate of sound?

(A) Leonardo da Vinci

(B) Isaac Newton

(C) John William Strutt

(D) Charles Sturm

Question 10: Who explained that the theory of light or sound wavelength is significant in water?

(A) Lord Rayleigh

(B) John William Strutt

(C) Charles Sturm

(D) Christopher Clark

Question11: According to Fox and colleagues, in what pattern does the change of finback whale calls happen

(A) Change in various seasons

(B) Change in various days

(C) Change in different months

(D) Change in different years

Question 12: In which way does the SOSUS technology inspect whales?

(A) Track all kinds of whales in the ocean

(B) Track bunches of whales at the same time

(C) Track only finback whale in the ocean

(D) Track whales by using multiple appliances or devices

Question 13: what could scientists inspect via monitoring along a repeated route ?

(A) Temperature of the surface passed

(B) Temperature of the deepest ocean floor

(C) Variation of temperature

(D) Fixed data of temperature

Reading Passage 2

You should spend about 20 minutes on Questions 14-26, which are based on the IELTSFever Academic IELTS Reading Test 107 Reading Passage Stealth Forces in Weight Loss below.

Stealth Forces in Weight Loss

The field of weight loss is like the ancient fable about the blind men and the elephant. Each man investigates a different part of the animal and reports back, only to discover their findings are bafflingly incompatible.

{A} The various findings by public health experts, physicians, psychologists, geneticists, molecular biologists, and nutritionists are about as similar as an elephant's tusk is to its tail

Some say obesity is largely predetermined by our genes and biology; others attribute it to an overabundance of fries, soda, and screen-sucking; still others think we're fat because of viral infection, insulin, or the metabolic conditions we

encountered in the womb. "Everyone subscribes to their own little theory," says Robert Berkowitz, medical director of the Center for Weight and Eating Disorders at the University of Pennsylvania School of Medicine. We're programmed to hang onto the fat we have, and some people are predisposed to create and carry more fat than others. Diet and exercise help, but in the end the solution will inevitably be more complicated than pushing away the plate and going for a walk. "It's not as simple as 'You're fat because you're lazy," says Nikhil Dhurandhar, an associate professor at Pennington Biomedical Research Center in Baton Rouge. "Willpower is not a prerogative of thin people. It's distributed equally."

{B} Science may still be years away from giving us a miracle formula for fat-loss. hormone leptin is a crucial player in the brain's weight-management circuitry. Some people produce too little leptin; others become desensitized to it. And when obese people lose weight, their leptin levels plummet along with their metabolism. The body becomes more efficient at using fuel and conserving fat, which makes it tough to keep the weight off. Obese dieters' bodies go into a state of chronic hunger, a feeling Rudolph Leibel, an obesity researcher at Columbia University, compares to thirst. "Some people might be able to tolerate chronic thirst, but the majority couldn't stand it," says Leibel "Is that a behavioral problem-a lack of willpower? I don't think so."

{C} The government has long espoused moderate daily exercise-of the evening-walk or take-the-stairs variety—but that may not do much to budge the needle on the scale. A 150-pound person burns only 150 calories on a half-hour walk, the equivalent of two apples. It's good for the heart, less so for the gut. "Radical changes are necessary," says Deirdre Barrett, a psychologist at Harvard Medical School and author of Waistland. "People don't lose weight by choosing the small fries or taking a little walk every other day." Barrett suggests taking a cue from the members of the National Weight Control Registry (NWCR), a self-selected group of more than 5,000 successful weight-losers who have shed an average of 66 pounds and kept it off 5.5 years. Some registry members lost weight using low-carb diets; some went low-fat; others eliminated refined foods. Some did it on their own; others relied on counseling. That said, not everyone can lose 66 pounds and not everyone needs to. The goal shouldn't be getting thin, but getting healthy. It's enough to whittle your weight down to the low end of your set range, says Jeffrey Friedman, a geneticist at Rockefeller University. Losing even 10 pounds vastly decreases your risk of diabetes, heart disease, and high blood pressure. The point is to not give up just because you don't look like a swimsuit model

{D} The negotiation between your genes and the environment begins on day one. Your optimal weight, writ by genes, appears to get edited early on by conditions even before birth, inside the womb. If a woman has high blood-sugar levels while she's pregnant, her children are more likely to be overweight or obese, according to a study of almost 10,000 mother-child pairs. Maternal diabetes may influence a child's obesity risk through a process called metabolic imprinting, says Teresa Hillier, an endocrinologist with Kaiser Permanente's Center for Health Research and the study's lead author. The implication is clear: Weight may be established very early on, and

obesity largely passed from mother to child. Numerous studies in both animals and humans have shown that a mother's obesity directly increases her child's risk for weight gain. The best advice for moms-to-be: Get fit before you get pregnant. You'll reduce your risk of complications during pregnancy and increase your chances of having a normal-weight child.

{E} It's the $64,000 question: Which diets work? It got people wondering: Isn't there a better way to diet? A study seemed to offer an answer. The paper compared two groups of adults: those who, after eating, secreted high levels of insulin, a hormone that sweeps blood sugar out of the bloodstream and promotes its storage as fat, and those who secreted less. Within each group, half were put on a low-fat diet and half on a low-glycemic-load diet. On average, the low-insulin-secreting group fared the same on both diets, losing nearly 10 pounds in the first six months — but they gained about half of it back by the end of the 18-month study. The high-insulin group didn't do as well on the low-fat plan, losing about 4.5 pounds, and gaining back more than half by the end. But the most successful were the high- insulin-secretors on the low-glycemic-load diet. They lost nearly 13 pounds and kept it off.

{F} What if your fat is caused not by diet or genes, but by germs-say, a virus? It sounds like a sci-fi horror movie, but research suggests some dimension of the obesity epidemic may be attributable to infection by common viruses, says Dhurandhar. The idea of "infectobesity" came to him 20 years ago when he was a young doctor treating obesity in Bombay. He discovered that a local avian virus, SMAM-1, caused chickens to die, sickened with organ damage but also, strangely, with lots of abdominal fat. In experiments, Dhurandhar found that SMAM-1-infected chickens became obese on the same diet as uninfected ones, which stayed svelte.

{G} He later moved to the U.S. and onto a bona fide human virus, adenovirus 36 (AD-36). In the lab, every species of animal Dhurandhar infected with the virus became obese-chickens got fat, mice got fat, even rhesus monkeys at the zoo that picked up the virus from the environment suddenly gained 15 percent of their body weight upon exposure. In his latest studies, Dhurandhar has isolated a gene that, when blocked from expressing itself, seems to turn off the virus's fattening power. Stem cells extracted from fat cells and then exposed to AD-36 reliably blossom into fat cells—but when stem cells are exposed to an AD-36 virus with the key gene inhibited, the stem cells don't differentiate. The gene appears to be necessary and sufficient to trigger AD-36-related obesity, and the goal is to use the research to create a sort of obesity vaccine.

Researchers have discovered 10 microbes so far that trigger obesity-seven of them viruses. It may be a long shot, but for people struggling desperately to be thin, even the possibility of an alternative cause of obesity offers some solace. "They feel better knowing there may be something beyond them that could be responsible," says Dhurandhar. "The thought that there could be something besides what they've heard all their lives that they are greedy and lazy-helps."

Questions 14-18

Reading Passage 2 has five sections, A-G.

Which section contains the following information? Write the correct letter, A-G,

in boxes 14-18 on your answer sheet.

NB You may use any letter more than once.

(14) evaluation on the effect of weight loss on different kind of diets

(15) an example of research which include relatives of participants

(16) Examples of a group of people who never regain weight immediately after.

(17) long term hunger may appear to be acceptable to most of the participants while losing weight

(18) a continuous experiment may lead to a practical application besides diet or hereditary resort.

Questions 19-23

Look at the following researchers and the list of findings below. Match each researcher with the correct finding.

Write the correct letter in boxes 19-23 on your answer sheet.

List Of Researchers

(A) Robert Berkowitz

(B) Rudolph Leibel

(C) Nikhil Dhurandhar

(D) Deirdre Barrett

(E) Jeffrey Friedman

(F) Teresa Hillier

(19) A person's weight is predetermined to a set point by the DNA.

(20) Pregnant mother who are overweight may risk their fetus

(21) The aim of losing Weight should be keeping healthy rather than attractiveness

(22) mall changes in lifestyle will not have great impact on reducing much weight

(23) Researchers should be divided into different groups with their own point of view about weight loss.

Questions 24-27

*Complete the summary below. Choose **NO MORE THAN ONE WORD** from the passage for each answer.*

Write your answers in boxes 24-27 on your answer sheet.

In the Bombay Clinic , a young doctor who came up with the concept 'infect obesity' believed that obesity is caused by a kind of virus. Years of experiment that he conducted on **24**……..

Later he moved to America and tested on a new virus named **25**……..which proved to be a significant breakthrough.

Although there seems no way to eliminate the virus, a kind of **26**.....can be separated to block the expressing power of the virus. The doctor's future is aiming at developing a new **27**.....to effectively combat the virus.

Reading Passage 3

You should spend about 20 minutes on Questions 28-40, which are based on the IELTSFever Academic IELTS Reading Test 107 Reading Passage Decision making and Happiness below.

Decision Making and Happiness

{A} Americans today choose among more options in more parts of life than has ever been possible before. To an extent, the opportunity to choose enhances our lives. It is only logical to think that if some choice is good, more is better; people who care about having infinite options will benefit from them, and those who do not can always just ignore the 273 versions of cereal they have never tried. Yet recent research strongly suggests that, psychologically, this assumption is wrong. Although some choices are undoubtedly better than none, more is not always better than less.

{B} Recent research offers insight into why many people end up unhappy rather than pleased when their options expand. We began by making a distinction between "maximizers" (those who always aim to make the best possible choice) and "satisficers" (those who aim for "good enough," whether or not better selections might be out there).

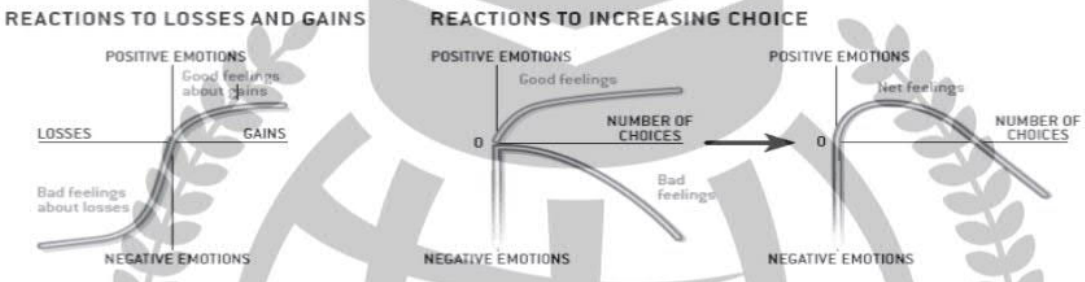
{C} In particular, we composed a set of statements—the Maximization Scale—to diagnose people's propensity to maximize. Then we had several thousand people rate themselves from 1 to 7 (from "completely disagree" to "completely agree") on such statements as "I never settle for second best." We also evaluated their sense of satisfaction with their decisions. We did not define a sharp cutoff to separate maximizers from satisficers, but in general, we think of individuals whose average scores are higher than 4 (the scale's midpoint) as maximizers and those whose scores are lower than the midpoint as satisficers. People who score highest on the test—the greatest maximisers—engage in more product comparisons than the lowest scorers, both before and after they make purchasing decisions, and they take longer to decide what to buy. When satisficers find an item that meets their standards, they stop looking. But maximizers exert enormous effort reading labels, checking out consumer magazines and trying new products. They also spend more time comparing their purchasing decisions with those of others.

{D} We found that the greatest maximizers are the least happy with the fruits of their efforts. When they compare themselves with others, they get little pleasure from finding out that they did better and substantial dissatisfaction from finding out that they did worse. They are more prone to experiencing regret after a purchase, and if their acquisition disappoints them, their sense of well-being takes longer to recover. They also tend to brood or ruminate more than satisficers do.

{E} Does it follow that maximizers are less happy in general than satisficers? We tested this by having people fill out a variety of questionnaires known to be reliable indicators of well-being. As might be expected, individuals with high maximization scores experienced less satisfaction with life and were less happy, less optimistic and more depressed than people with low maximization

scores. Indeed, those with extreme maximization ratings had depression scores that placed them in the borderline clinical range.

{F} Several factors explain why more choice is not always better than less, especially for maximizers. High among these are "opportunity costs." The quality of any given option cannot be assessed in isolation from its alternatives. One of the "costs" of making a selection is losing the opportunities that a different option would have afforded. Thus an opportunity cost of vacationing on the beach in Cape Cod might be missing the fabulous restaurants in the Napa Valley. EARLY DECISION-MAKING RESEARCH by Daniel Kahneman and Amos Tversky showed that people respond much more strongly to losses than gains. If we assume that opportunity costs reduce the overall desirability of the most preferred choice, then the more alternatives there are, the deeper our sense of loss will be and the less satisfaction we will derive from our ultimate decision.



{G} The problem of opportunity costs will be worse for a maximizer than for a satisficer. The latter's "good enough" philosophy can survive thoughts about opportunity costs. In addition, the "good enough" standard leads to much less searching and inspection of alternatives than the minimizer's "best" standard. With fewer choices under consideration, a person will have fewer opportunity costs to subtract.

{H} Just as people feel sorrow about the opportunities they have forgone, they may also suffer regret about the option they settle on. My colleagues and I devised a scale to measure proneness to feeling regret, and we found that people with high sensitivity to regret are less happy, less satisfied with life, less optimistic and more depressed than those with low sensitivity. Not surprisingly, we also found that people with high regret sensitivity tend to be maximizers. Indeed, we think that worry over future regret is a major reason that individuals become maximizers. The only way to be sure you will not regret a decision is by making the best possible one. Unfortunately, the more options you have and the more opportunity costs you incur, the more likely you are to experience regret. Regret

{I} In a classic demonstration of the power of sunk costs, people were offered season subscriptions to a local theater company. Some were offered the tickets at full price and others at a discount. Then the researchers simply kept track of how often the ticket purchasers actually attended the plays over the course of the season. Full-price payers were more likely to show up at performances than discount payers. The reason for this, the investigators argued, was that the full-price payers would experience more regret if they did not use the tickets because not using the more costly tickets would constitute a bigger loss. To increase our sense of happiness,

We can decide to restrict our options when the decision is not crucial. For example, make a rule to visit no more than two stores when shopping for clothing.

Questions 28-31

Use the information in the passage to match the category (listed A-D) with descriptions or deeds below. Write the appropriate letters A-D in boxes 28-31 on your answer sheet.

[A] Maximiser

[B] Satisficer

[C] Both

[D] Neither of them

(28) finish transaction when the items match their expectation

(29) buy the most expensive things when shopping

(30) consider repeatedly until they make final decision

(31) participate in the questionnaire of the author

Questions 32-36

Do the following statements agree with the information given in Reading Passage 3 In boxes 32-36 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

(32) With society's advancement, more chances make our lives better and happier.

(33) There is a difference of findings by different gender classification.

(34) The feeling of loss is greater than that of acquisition.

(35) 'Good enough' plays a more significant role in pursuing 'best' standards of maximizer.

(36) There are certain correlations between the "regret" people and the maximisers.

Questions 37-40

Choose the correct letter, ***A, B, C or D.***

Write your answers in boxes ***37-40*** *on your answer sheet.*

Question 37 What is the subject of this passage?

(A) regret makes people less happy

(B) choices and Well-being

(C) an interesting phenomenon

(D) advices on shopping

Question 38 According to conclusion of questionnairs, which of the following statement is correct?

(A) maximisers are less happy

(B) state of being optimistic is important

(C) uncertain results are found.

(D) maximisers tend to cross bottom line

Question 39 The experimental on theater tickets suggested:

(A) sales are different according to each season

(B) people like to spend on the most expensive items

(C) people feel depressed if they spend their vouchers

(D) people would regret it if they failed to spend on discount sales.

Question 40 What is author's suggestion on how to increase happiness:

(A) focus the final decision

(B) be sensitive and smart

(C) reduce the choice or option

(D) read label carefully