

# ENGLISH TEST

## General Guidelines

The English Test will test your ability in understanding English structures and reading texts. It employs a multiple choice format, and it takes **90 minutes** to do the test.

The test comprises two following parts:

1. Part 1: 40 numbers of **Structure and Written Expression**
2. Part 2: 60 numbers of **Vocabulary and Reading Comprehension**

You may choose to begin work on ANY part.

For each number, you may only choose **ONE** answer. Giving more than one answer will not give you any point for that number.

For each number, you will see four possible answers, marked (A), (B), (C) and (D). Choose one option, and then on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen. Fill in the space so that the letter inside the circle cannot be seen.



The questions are given in a variety of difficulty levels. You should try to answer all of them, as there is **NO PENALTY** for incorrect answers.

Directions for each part of the test will be given at the beginning of each part.

If you find an error in any printed item of the test, just guess the answer as best as you can and continue.

**SECTION 1**  
**STRUCTURE AND WRITTEN EXPRESSION**

This section is designed to measure your ability to recognize language that is appropriate for standard written English. There are two types of questions in this section, with special directions for each type.

**Directions:** Questions 1-15 are incomplete sentences. Beneath each sentence you will see four words or phrases, marked (A), (B), (C), and (D). Choose the one word or phrase that best completes the sentence. Then, on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen. Fill in the space so that the letter inside the oval cannot be seen.

*Example I*

.....are found in virtually every country in the world.

**Sample Answer**

(A) (B) (C) (D)

- (A) Swamps and marshes which
- (B) When swamps and marshes
- (C) Swamps and marshes
- (D) Now that swamps and marshes

The sentence should read, "Swamps and marshes are found in virtually every country in the world." Therefore, you should choose answer (C).

*Example II*

Milk is pasteurized by heating it for thirty minutes at about 63° Centigrade, rapidly cooling it, and then .....it at a temperature below 10° Centigrade.

**Sample Answer**

(A) (B) (C) (D)

- (A) to store
- (B) store
- (C) be stored
- (D) storing

The sentence should read, "Milk is pasteurized by heating it for thirty minutes at about 63° Centigrade, rapidly cooling it, and then storing it at a temperature below 10° Centigrade." Therefore, you should choose answer (D).

Now begin work on the questions.

1. Most successful scientists are theorists who can see beyond the facts and \_\_\_\_\_ about the general principles that underlie them.  
(A) then speculating  
(B) they speculate  
(C) to speculate  
(D) speculate
2. Not until Grandma Moses, the famous painter of 'primitive art', reached the age of 76 \_\_\_\_\_ her unique depictions of everyday life on a farm.  
(A) she began to paint  
(B) did she begin to paint  
(C) as she began to paint  
(D) to begin to paint
3. Canadian geese, \_\_\_\_\_ to warmer southern regions, fan out across the sky in an orderly V pattern.  
(A) migrate annually  
(B) for annual migration  
(C) migrating annually  
(D) their annual migration
4. The better trained the dolphins at Ancol are, \_\_\_\_\_.  
(A) they will give a better performance  
(B) there will be a more enjoyable performance  
(C) the performance will be more enjoyable  
(D) the more enjoyable the performance will be
5. Rain forests sustain such a profusion of plants and animals \_\_\_\_\_ they are constantly teeming with life.  
(A) so that  
(B) that  
(C) in that  
(D) as such
6. The ability of cowboys in the 19<sup>th</sup> century \_\_\_\_\_ a steer or break a colt could mean survival for the early settlers in the Wild West.  
(A) if they roped  
(B) they could rope  
(C) to be roping  
(D) to rope
7. Finding it difficult \_\_\_\_\_ between a career in law and in medicine, Ratna merged her two interests and decided to study forensic medicine.  
(A) choosing  
(B) in the choice  
(C) to choose  
(D) making the choice
8. Although the President of Myanmar had ordered a cease-fire, \_\_\_\_\_ along the border with China.  
(A) as there was still fighting  
(B) but fighting still flared up  
(C) no flare-ups of fighting occurred  
(D) fighting still flared up
9. Every spring local as well as international tourists flock to Keukenhof Garden in the Netherlands, \_\_\_\_\_ its magnificent, colorful displays of tulips.  
(A) it is of great renown to  
(B) won great renown as  
(C) is greatly renowned as  
(D) greatly renowned for
10. \_\_\_\_\_ provides a living for half of the people in coastal villages.  
(A) What is fishing  
(B) Which fishing  
(C) Fishing is what  
(D) What fishing is

11. In 2004, China won nearly \_\_\_\_\_ silver medals as those made by the U.S.  
(A) twice as much  
(B) twice much more  
(C) twice as many  
(D) twice
12. \_\_\_\_\_, orchids have long been a priceless export commodity of Thailand.  
(A) Treasuring exotic beauty  
(B) Treasured for their exotic beauty  
(C) They are treasuring its exotic beauty  
(D) Their exotic beauty is much treasured
13. \_\_\_\_\_ from harmful viruses or bacteria to provide immunity to particular diseases.  
(A) The preparation of vaccines  
(B) That vaccines are prepared  
(C) Vaccines are prepared  
(D) In preparing vaccines
14. During the last ice age, most of North America was covered by a vast blanket of ice, \_\_\_\_\_ depressed the Earth's crust at many places in Canada.  
(A) whose enormously heavy weight  
(B) it is an enormous weight that  
(C) its weight of the enormous mass of ice  
(D) of which the weight is enormously heavy
15. A laser beam is increasingly used in surgery and in industry \_\_\_\_\_ highly accurate cutting is required.  
(A) whatever  
(B) whenever  
(C) whichever  
(D) wherever

**Directions:** In questions 16–40 each sentence has four underlined words or phrases. The four underlined parts of the sentence are marked (A), (B), (C), and (D). Identify the one underlined word or phrase that must be changed in order for the sentence to be grammatically correct. Then, on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen.

*Example I*

**Sample Answer**

(A) ● (C) (D)

Meadowlarks are about the same size than robins.

but they have heavier bodies, shorter tails, and

longer bills.

The sentence should read, "Meadowlarks are about the same size as robins, but they have heavier bodies, shorter tails, and longer bills." Therefore, you should choose answer (B).

*Example II*

**Sample Answer**

(A) (B) ● (D)

When overall exports exceed imports, a country said

to have a trade surplus.

The sentence should read, "When overall exports exceed imports, a country is said to have a trade surplus." Therefore, you should choose answer (C).

Now begin work on the questions.

16. Scientists agree that vitamin C can reduce the severity of colds but not prevention of cancer as is emphasized by stakeholders of the lucrative pharmaceutical business.

17. Simone Weil, a French existentialist writer, was respected as much for her somewhat mystical philosophy and for her clarity in writing.

18. According to the latest government regulation, people who are still using old, energy-consuming air-conditioners must have them to replace by new, energy-saving ones before the end of the year.

19. Regular tune-ups and oil changes are important for the performance of a car as a lack of maintenance may in the long run to negatively affects the car's engine.

20. Whipped by strong winds, the wildfire roared on the mountain slopes dotted with small villages, forcing some 5000 people evacuating their homes.

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21. Faced with constant<sup>A</sup> rising oil prices and faltering<sup>B</sup> economies, European Union countries are leading<sup>C</sup> the way in harnessing<sup>D</sup> wind energy.
22. In a political election, the politician's<sup>A</sup> advertisement on prime-time television is a crucial<sup>B</sup> factor that determining<sup>C</sup> the outcome of the election for the<sup>D</sup> candidate.
23. Sulfur dioxide contained<sup>A</sup> in the polluted air of the country's northern region it<sup>B</sup> consistently measures<sup>C</sup> ten times the level considered safe<sup>D</sup> by international standard.
24. In the late<sup>A</sup> 20<sup>th</sup> century, General Managers of all nationality<sup>B</sup> throughout Asia were complaining about<sup>C</sup> the difficulty of finding<sup>D</sup> qualified bilingual job applicants.
25. For the moment<sup>A</sup>, the exploitation of shale gas is at a standstill<sup>B</sup> because prices have dropped to only a fraction<sup>C</sup> of its<sup>D</sup> boom levels.
26. The shipwreck of a British ship, was lost<sup>A</sup> in the icy waters of Canada's Northwest Passage 140 years<sup>B</sup> ago, was found entombed<sup>C</sup> beneath seven-foot-deep<sup>D</sup> solid ice.
27. Alike<sup>A</sup> most of the birds that fly southwards to warmer<sup>B</sup> regions before winter sets in<sup>C</sup>, pigeons are also able to orient themselves<sup>D</sup> in the sky by 'reading' the position of the sun and the stars.
28. Seriously injured by Taliban<sup>A</sup>, Malala, only fifteen years old, became the symbol<sup>B</sup> of courage and conviction as a young champion fighting for the right to education<sup>C</sup> for all girls in Pakistan.<sup>D</sup>
29. Budapest, sited on both banks of the<sup>A</sup> Danube River is famous for their<sup>B</sup> spas which draw water known for its medicinal<sup>C</sup> properties from underground thermal springs.<sup>D</sup>
30. Although the two<sup>A</sup> of them were only casual acquainted<sup>B</sup> in high school, they were delighted when they unexpectedly<sup>C</sup> met each other on campus<sup>D</sup> at the same university in London.
31. Wearing fur hats and trimmed robes<sup>A</sup> with leopard skin, tribesmen from eastern<sup>B</sup> Tibet join the religious<sup>C</sup> rituals and festivities in the old city of Lhasa in celebration of<sup>D</sup> the Tibetan New Year.

32. For a coral reef to grow well, it needs warm, shallow and a clearness of seawater without any silt or mud.  
A B C D
33. Doctors of the future will be able to use instruments for genetic analysis that will help them diagnose the disease more accurate and decide on the treatment.  
A B C D
34. Today computer experts are making use of advanced technology in their experiments to have future computers responding to a range of spoken words.  
A B C D
35. It is very hard, if not impossible, to get a taxi during the rush hours of the day, both mornings or evenings.  
A B C D
36. Between 2005 to 2010, U.S. shale gas production grew an astonishing 45% a year, thereby creating jobs directly or indirectly by the hundreds of thousands.  
A B C D
37. Strains of tuberculosis that are resistant for all known TB drugs recently surfaced in the crowded slums of India, and caused great alarm for a deadly outbreak of the old disease.  
A B C D
38. The longest oil pipeline in the world begins in the oil fields of Baka in Azerbaijan and extends to the south so far as Cayhan, a port in Turkey.  
A B C D
39. Not all of the sun's ultraviolet radiation can reach the Earth's surface because the ozone layer in the atmosphere forms a protection screen.  
A B C D
40. Under heavy pressure from animal-rights organizations, many zoos were transformed from prison-like places to environments replicating their natural habitat.  
A B C D

**THIS IS THE END OF SECTION 1**

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## SECTION 2

### VOCABULARY AND READING COMPREHENSION

**Directions:** In this section you will read several passages. Each passage is followed by questions about it. Choose the one best answer, (A), (B), (C), or (D), for each question. Then, on your answer sheet, find the number of the question and fill in the oval that corresponds to the letter of your answer choice. Answer all questions based on what is stated or implied in the passage.

**Read the following passage:**

A new hearing device is now available for some hearing-impaired people. This device uses a magnet to hold the detachable sound-processing portion in place. Like other aids, it converts sound into vibrations. But it is unique in that it can transmit the vibrations directly to the magnet, and then to the inner ear. This produces a clearer sound. The new device will not help all hearing-impaired people, only those with a hearing loss caused by infection or some other problem in the middle ear. It will probably help no more than 20 percent of all people with hearing problems. Those people, however, who have persistent ear infections should find relief and restored hearing with the new device.

*Example I:*

What is the author's main purpose?

- (A) to describe a new cure for ear infections
- (B) to inform the reader of a new device
- (C) to urge doctors to use a new device
- (D) to explain the use of a magnet

**Sample Answer**

☐ (A) ☒ (B) ☐ (C) ☐ (D)

The author's main purpose is to inform the reader of a new device for hearing-impaired people. Therefore, you should choose answer (B).

*Example II:*

The word "relief" in line 7 means

- (A) less distress
- (B) assistance
- (C) distraction
- (D) relaxation

**Sample Answer**

☒ (A) ☐ (B) ☐ (C) ☐ (D)

The phrase "less distress" is similar in meaning to "relief" in this sentence. Therefore, you should choose answer (A).

Now begin with the questions.

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Questions 41 - 60

It is the nature of youth to make a racket. This happens reliably in New York City every weekday between two and three in the afternoon, when school lets out. Teen-agers spill onto the sidewalks and descend below ground into the subway, where, having loosened their uniforms and shed decorum, they occupy the airwaves—shouting, flirting, arguing, cajoling, checking in, checking out. They sing the song of themselves, loudly, jubilantly, to a rhythm that only they can hear.

In the coming days, the woods and lawns in and around the city will experience a similar visitation, from periodical cicadas. For seventeen years, juveniles of three species of the genus *Magicicada* have been underground, sipping on rootlets and quietly growing. When the soil reaches the right temperature—64 degrees F, measured eight inches down—they will emerge in *astounding* numbers, molt, climb into the trees, and, for the remaining three weeks or so of their lives, sing an exoskeleton-rattling chorus. Periodical cicadas are distinct from the species that emerge annually, in far lesser numbers, and sing in the dog days of summer. (There are seven *Magicicada* species in all, four of which emerge, every thirteen years, in the Southern and Midwestern states) The reason for the long life cycle is the subject of debate, but the point of the din is clear: to court and mate and so start the period anew.

The racket comes from the males. Each sings by rapidly clicking a portion of his abdomen in and out, as one might click and unclick an empty soda can. He alters its shape and position to make the frequency rise and fall, and because his abdomen is mostly hollow, it acts as a resonance chamber that amplifies the sound and broadcasts it for some distance. (Cicadas can relax and desensitize their auditory organs, so they don't deafen themselves.) The quality of the song varies among species; some cicadas in Southeast Asia produce "spectacularly musical songs, with more pure tones, complex frequencies, and harmonics," David Marshall, a cicada researcher at the University of Connecticut, in Storrs, told me. "There are some that sound like birds, whereas ours are more grating, although some make a pleasant syrupy drone."

New York's seventeen-year brood, known to scientists as Brood II, extends from Connecticut to Georgia and has been emerging south of here for a couple of weeks already. Marshall was on his cell phone, in the passenger seat of a car in Elkin, North Carolina, near the southern limit of the emergence; John Cooley, a colleague, was driving. "We're driving around with our windows open, listening," Marshall said. The three seventeen-year species aren't equally *abundant* everywhere, and the researchers are interested in, among other things, charting their respective distributions, to test ideas about cicada ecology and evolution. Over the past ten years, Marshall and his wife, Kathy Hill, have recorded most of the cicadas of eastern North America, as well as many south-western species, and made the songs available on their Web site, [insectsingers.com](http://insectsingers.com).

"We're using their sounds to tell us which species are present, and getting out occasionally, making collections for DNA sequencing," he said. Studying periodical cicadas sounded a lot like a road trip, minus the car stereo. "We're just driving around in the car a lot, pretty much all day, from nine in the morning until the sun goes down," Marshall said. "Then we will crash at a campground and have dinner. Periodical cicadas don't last all that long when they come out; you only have a few weeks to gather all the information you can."

41. According to the passage, what is NOT true about New York City youth?
- (A) They crave attention and compliments from their surroundings.
  - (B) When they are together they tend to make a great din.
  - (C) They like to flirt with one another and talk in a loud voice.
  - (D) They tease and chatter in a manner that only they can understand.

42. According to the passage, what is the similarity between New York City teenagers and periodical cicadas?
- (A) They both like to make noise.
  - (B) They create a complex yet melodious din.
  - (C) Only the males in both groups make a racket.
  - (D) Both can protect their hearings against loud noise.

43. Which of the following words could best substitute the word "astonishing" in line 9?  
(A) Surprising  
(B) Debilitating  
(C) Enervating  
(D) Staggering
44. What is the purpose of the periodical cicadas' racket?  
(A) To unleash the energy kept during hibernation.  
(B) To attract the opposite sex in order to mate.  
(C) To frighten predators and keep them at bay.  
(D) To let other cicadas know their exact location.
45. Below are characteristics of periodical cicadas, EXCEPT  
(A) They grow below the ground for years.  
(B) They go out on the ground in large numbers.  
(C) They go out every year in the summer to mate.  
(D) They die after about three weeks on the ground.
46. What can be inferred about some cicadas in Southeast Asia and those in New York?  
(A) The former stay underground longer than the latter.  
(B) Both produce equally loud and pleasant sound.  
(C) The former make more melodious and intricate sound.  
(D) Neither of the two species can sound like a bird.
47. Which of the words below has the opposite meaning to the word "abundant" in line 28?  
(A) Bountiful  
(B) Ample  
(C) Scant  
(D) Sufficient
48. It can be inferred from paragraph four that  
(A) the three researchers are in North Carolina because it is the original location of periodical cicadas.  
(B) Marshall, Hill and Cooley have been following the life of periodical cicadas for more than a decade.  
(C) the sole purpose of the research is to map the distributions of periodical cicadas in North America.  
(D) the researchers have been traveling south of New York to understand the periodical cicadas better.
49. With which of the following statements would the author probably agree?  
(A) Periodical cicadas stay underground for fifteen years before they start mating.  
(B) Regular, non-periodical cicadas appear annually and produce their songs in the summer.  
(C) Southeast Asia cicadas can also be found hibernating in New York in the winter.  
(D) New York periodical cicadas make sweeter and more syrupy songs than those elsewhere.
50. According to the passage, why do Marshall and his spouse collect various cicadas' songs?  
(A) To identify and map the presence of a species of cicadas.  
(B) To pursue a hobby and to show their love for the insect.  
(C) To identify cicadas' DNA through the songs they recorded.  
(D) To arrange those songs for different musical instruments.

## Questions 51 - 60

In his inaugural address in 1949 Harry S. Truman said that "more than half the people in the world are living in conditions approaching misery. For the first time in history, humanity possesses the knowledge and skill to relieve the suffering of those people." It has taken much longer than Truman hoped, but the world has lately been making extraordinary progress in lifting people out of extreme poverty. Between 1990 and 2010, their number fell by half as a share of the total population in developing countries, from 43% to 21%—a reduction of almost 1 billion people.

Now the world has a serious chance to redeem Truman's pledge to lift the least fortunate. Of the 7 billion people alive on the planet, 1.1 billion subsist below the internationally accepted extreme-poverty line of US\$1.25 a day. Starting this week and continuing over the next year or so, politicians and officials from governments and international agencies will meet to draw up a new list of targets to replace the Millennium Development Goals (MDGs), which were set in September 2000 and expire in 2015. Governments should adopt as their main new goal the aim of reducing by another billion the number of people in extreme poverty by 2030.

Nobody in the developed world comes remotely close to the poverty level that US\$1.25 a day represents. America's poverty line is US\$63 a day for a family of four. In the richer parts of the emerging world US\$4 a day is the poverty barrier. But poverty's scourge is fiercest below US\$1.25. People below that level live lives that are poor, nasty, brutish and short. They lack not just education, health care, proper clothing and shelter, which most people in most of the world take for granted, but even enough food for physical and mental health. Raising people above that level of wretchedness is not a sufficient ambition for a prosperous planet, but it is a necessary one.

Poverty rates started to collapse towards the end of the 20th century largely because developing-country growth accelerated, from an average annual rate of 4.3% in 1960-2000 to 6% in 2000-10. Around two-thirds of poverty reduction within a country comes from growth. Greater equality also helps, contributing the other third. China is responsible for three-quarters of the global achievement in poverty reduction. Its economy has been growing so fast that, even though inequality is rising fast, extreme poverty is disappearing. China pulled 680 million people out of misery in 1981-2010, and reduced its extreme-poverty rate from 84% in 1980 to 10% now.

That is one reason why it will be harder to take a billion more people out of extreme poverty in the next 20 years than it was to take almost a billion out in the past 20. Poorer governance in India and Africa, the next two targets, means that China's experience is unlikely to be swiftly replicated there. Another reason is that the bare achievement of pulling people over the US\$1.25-a-day line has been relatively easy in the past few years because so many people were just below it. When growth makes them even slightly better off, it hauls them over the line. With fewer people just below the official misery limit, it will be more difficult to push large numbers over it.

If developing countries maintain the impressive growth they have managed since 2000; if the poorest countries are not left behind by faster-growing middle-income ones; and if inequality does not widen so that the rich lap up all the cream of growth—then developing countries would cut extreme poverty from 16% of their populations now to 3% by 2030. That would reduce the absolute numbers by 1 billion. That is a lot of ifs. But making those things happen is not as difficult as cynics profess. The world now knows how to reduce poverty.

51. Why does the author open the passage with a quotation from Harry S. Truman?

- (A) To introduce readers to the topic of the passage.
- (B) To share Truman's vision to eradicate extreme poverty.
- (C) To help readers understand Millennium Development Goals.
- (D) To showcase the brilliant idea of the former U.S. President, Harry S. Truman.

52. According to the passage, the following statements about extreme poverty are true EXCEPT

- (A) Around 15% of the world's populations live with less than US\$1.25 a day.
- (B) Within two decades, the world has decreased the rate of extreme poverty by more than 20%.
- (C) Extreme poverty is almost non-existent in developing countries.
- (D) It is extremely hard to live with an income of less than US\$1.25 a day.

53. The word "which" in line 11 refers to  
 (A) politicians and officials  
 (B) governments  
 (C) international agencies  
 (D) Millennium Development Goals
54. Where in the passage does the author describe the lives led by people living in extreme poverty?  
 (A) Paragraph 2  
 (B) Paragraph 3  
 (C) Paragraph 4  
 (D) Paragraph 5
55. According to the passage, reducing extreme poverty in the next two decades is going to be difficult because  
 (A) the world's economy has not been growing as fast as in the past two decades.  
 (B) there are fewer people who live just under the extreme poverty line.  
 (C) the developing world does not have the resources needed to battle extreme poverty.  
 (D) India and countries and Africa have accountable governments.
56. The word "fierce" in line 16 could best be replaced by which of the following?  
 (A) Delirious  
 (B) Feeble  
 (C) Austere  
 (D) Ferocious
57. According to the passage, China  
 (A) has an important role in reducing the rate of extreme poverty in the world.  
 (B) needs to further improve its efforts to eradicate extreme poverty in the country.  
 (C) has made successful efforts to reduce extreme income inequality.  
 (D) has taken more than one million people out of extreme poverty in less than a decade.
58. The following are questions that the passage tries to answer EXCEPT  
 (A) Why has China been successful in reducing the rate of extreme poverty in the country?  
 (B) When does the world's extreme poverty rate start to decrease significantly?  
 (C) What is the poverty rate for a family of four in the United States of America?  
 (D) Who is the person that inspires the world to set Millennium Development Goals?
59. Which of the words below has the opposite meaning to the word "misery" in line 33?  
 (A) Calamity  
 (B) Happiness  
 (C) Misfortune  
 (D) Discomfort
60. The author's attitude toward the world's goal to reduce poverty is generally  
 (A) skeptical.  
 (B) disheartened.  
 (C) cynical.  
 (D) hopeful.



Questions 61 - 70

On March 11, 2011, a magnitude 9.0 undersea earthquake occurred 43 miles off the shore of Japan. The earthquake generated an unexpectedly massive tsunami that washed over eastern Japan roughly 30 minutes later, killing more than 15,800 people and injuring more than 6,100. More than 2,600 people are still unaccounted for. Now, computer simulations by Stanford scientists reveal that sound waves in the ocean produced by the earthquake probably reached land tens of minutes before the tsunami. If correctly interpreted, they could have offered a warning that a large tsunami was on the way.

Although various systems can detect undersea earthquakes, they can't reliably tell which will form a tsunami or predict the size of the wave. There are ocean-based devices that can sense an oncoming tsunami, but they typically provide only a few minutes of advance warning. Because the sound from a seismic event will reach land well before the water itself, the researchers suggest that identifying the specific acoustic signature of tsunami-generating earthquakes could lead to a faster-acting warning system for massive tsunamis.

The finding was something of a surprise. The earthquake's epicenter had been traced to the underwater Japan Trench, a subduction zone about 40 miles east of Tohoku, the northeastern region of Japan's larger island. Based on existing knowledge of earthquakes in this area, seismologists puzzled over why the earthquake rupture propagated from the underground fault all the way up to the seafloor, creating a massive upward thrust that resulted in the tsunami. Direct observations of the fault were scarce, so Eric Dunham, an assistant professor of geophysics in the School of Earth Sciences, and Jeremy Kozdon, a postdoctoral researcher working with Dunham, began using the cluster of supercomputers at Stanford's Center for Computational Earth and Environmental Science (CEES) to simulate how the tremors moved through the crust and ocean.

The researchers built a high-resolution model that incorporated the known geologic features of the Japan Trench and used CEES simulations to identify possible earthquake rupture histories compatible with the available data. Retroactively, the models accurately predicted the seafloor uplift seen in the earthquake, which is directly related to tsunami wave heights, and also simulated sound waves that propagated within the ocean. In addition to valuable insight into the seismic events as they likely occurred during the 2011 earthquake, the researchers identified the specific fault conditions necessary for ruptures to reach the seafloor and create large tsunamis. The model also generated acoustic data; an interesting revelation of the simulation was that tsunamigenic surface-breaking ruptures, like the 2011 earthquake, produce higher amplitude ocean acoustic waves than those that do not. The model showed how those sound waves would have traveled through the water and indicated that they reached shore 15 to 20 minutes before the tsunami.

Dunham and Kozdon pointed out that identifying a tsunami signature doesn't complete the warning system. Underwater microphones called hydrophones would need to be deployed on the seafloor or on buoys to detect the signal, which would then need to be analyzed to confirm a threat, both of which could be costly. Policymakers would also need to work with scientists to settle on the degree of certainty needed before pulling the alarm. If these points can be worked out, though, the technique could help provide precious minutes for an evacuation.

61. Which of the following would most likely be the main idea of the entire passage?
- (A) CEES simulations illustrate the formation of a massive tsunami in Japan.
  - (B) Earthquake acoustics can indicate if a massive tsunami is about to happen.
  - (C) Ocean-based devices are no longer needed to detect undersea earthquakes.
  - (D) Stanford scientists investigated why a great tsunami happened in Japan in 2011.
62. According to the passage, which of the following is TRUE about the 2011 earthquake in Japan?
- (A) It occurred near the shore of Japan.
  - (B) It happened in the middle of the night.
  - (C) More than 20,000 people became victims.
  - (D) Northern Japan received the worst impact.

63. The word "they" in line 6 refers to  
 (A) computer simulations.  
 (B) Stanford scientists.  
 (C) tens of minutes.  
 (D) sound waves.
64. According to the passage, which of the following is NOT the shortcoming of other undersea earthquake detectors?  
 (A) They are extremely expensive and difficult to operate.  
 (B) They can only give several minutes of early notification.  
 (C) They are unable to provide information about the size of the waves.  
 (D) They cannot accurately predict which earthquakes will cause tsunamis.
65. The word "puzzled" in line 16 is closest in meaning to  
 (A) bewildered.  
 (B) considered.  
 (C) panicked.  
 (D) amazed.
66. It can be inferred from paragraph 4 that sound waves  
 (A) generally reach the shore as fast as earthquakes.  
 (B) do not travel well through water in the ocean.  
 (C) will be slower if the undersea earthquakes are bigger.  
 (D) give valuable data for evacuation if analyzed and used well.
67. Which of the following best expresses the opposite meaning of the word "compatible" in line 24?  
 (A) Well-matched  
 (B) Expected  
 (C) Adjusted  
 (D) Unsited
68. The author would probably use of the following words to describe CEES simulations EXCEPT  
 (A) practical.  
 (B) imprecise.  
 (C) promising.  
 (D) ingenious.
69. The passage would probably be a part of an assigned reading in which of the following courses?  
 (A) Hydrology  
 (B) Seismology  
 (C) Chemistry  
 (D) Physics
70. According to the passage, which of the following is NOT needed to complete the warning system?  
 (A) installment of hydrophones on the seafloor or buoys  
 (B) a collaboration between policymakers and scientists  
 (C) early evacuation training for the local people  
 (D) analysis of signals from the hydrophones

Questions 71 - 80

A number of studies have revealed that when we suffer from certain psychological ailments—loneliness, social isolation, self-doubt, negative mood, and the feeling that life is meaningless—nostalgia can act as a coping mechanism. Such ailments can cause the mind to sift through its cache of memories, summoning up those with a particular narrative signature. Researchers analyzed hundreds of nostalgic accounts, and found that they typically featured family and friends, a momentous event, or, often, both. The participant describing the memory was almost always the protagonist, and the narrative arc was generally one of redemption: at first, conditions may have seemed grim or hopeless, but eventually things were resolved in a favorable ending. Through nostalgia, the researchers claimed, we bring back to the surface evidence of past triumphs and close relationships, times when our lives felt safe and ordered.

To illuminate nostalgia's role as an emotional buffer, Clay Routledge, a psychologist and nostalgia researcher at North Dakota State University, and other researchers attempted to destabilize their subjects' sense of self. Participants took tests that could be collectively characterized as psychologically *diabolical*: performing math in public, reading an essay designed to provoke existential angst, and being told that their answers on a personality survey indicated they would likely end up alone and unloved. In some of the experiments, the subjects who had been made to feel insignificant or destined for abandonment reported feeling significantly more nostalgic than those who hadn't. In other studies, participants were prompted to evoke a nostalgic memory before or just after having their sense of self assailed. The subjects who indulged in a nostalgic reminiscence reported feeling significantly less stressed, less defensive, and more socially supported and content than their non-nostalgic counterparts.

That nostalgia could be a source of mental resilience and motivation directly challenges certain critics' notion of the sentiment as paralyzing, a harbinger of cultural stagnation. "It is exactly the opposite," Constantine Sedikides, a psychologist and nostalgia expert at the University of Southampton, said. "When you become nostalgic, you don't become past-oriented. You want to go out there and do things." If there is a poster population for nostalgia's self-regulatory effects, it is China's post-eighties cohort. As the nation's first generation of only children—China instituted its one-child policy in 1979—the post-eighties are predisposed to loneliness. They came of age in tandem with China's transition to a more market-based economy, a fateful stroke of timing through which they were enlisted as involuntary trailblazers, tasked with defining what it means to be both modern and Chinese. While their parents received state-appointed factory jobs and government-subsidized housing, they were encouraged to pursue their dreams amidst a fluctuating social structure with few defined paths.

Now in their late twenties or early thirties, the post-eighties are trying to navigate a desolate job market, often as the sole financial providers for both their children and their parents (as is China's custom). Many left their rural hometowns for the more prosperous cities only to face *vicious* competition for scarce white-collar jobs. To vie for *scant* promotions, they work eleven-hour days and engage in brutal office politics. Add to all of this urban overcrowding, unprecedented pollution, and a barrage of food-safety scandals and the resulting stress presents an onslaught of nostalgia's known psychological triggers. Xinyue Zhou, a psychologist at Sun Yat-sen University, in Guangzhou, whose research has demonstrated nostalgia's ability to bolster a sense of social connectedness among a diverse cross-section of Chinese citizens, said, "The uncertainty, the lack of control over our lives, is most unbearable to the post-eighties, so we have to seek confirmation from the past."

71. What is the main idea of the passage?

- (A) Nostalgia impedes development and creates cultural stagnation.
- (B) Research has shown that nostalgia is an indulgence for the feeble minded.
- (C) There are a variety of reasons which make nostalgia beneficial to humans.
- (D) Various structural changes triggered a sense of loneliness in post-eighties Chinese.

72. According to the passage, the following statements about nostalgia are true EXCEPT

- (A) People tend to be more nostalgic when they perceive themselves as insignificant.
- (B) When people are reminiscing, they always see themselves as the villains in their stories.
- (C) When people are nostalgic, it does not necessarily mean that they are past-oriented.
- (D) Nostalgia can create a sense of order and safety in people with certain psychological ailments.

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73. Which of the following words could best substitute the word "diabolical" in line 13?
- (A) despicable
  - (B) sacred
  - (C) celestial
  - (D) benevolent
74. What is the finding of Routledge and colleagues' study on nostalgia?
- (A) Nostalgic reminiscence will only bring positive effects on geriatrics.
  - (B) People who undergo diabolical experience tend to feel insignificant and nostalgic.
  - (C) People who were abandoned as children tend to avoid reminiscing their childhood.
  - (D) Subjects who indulged in nostalgia claimed to feel better than those who did not.
75. According to the passage, Sedikides believes that
- (A) Nostalgia could never be a source of comfort and motivation for many people.
  - (B) People who are nostalgic do not think that the past is better than the future.
  - (C) The inability to go out and to be active is the side effect of nostalgia.
  - (D) Nostalgia could cause mental paralysis in certain people.
76. According to the passage, China's post-eighties cohort
- (A) are now in their forties and fifties.
  - (B) are self-disciplined and highly motivated.
  - (C) are mostly living outside their hometowns.
  - (D) are discouraged from pursuing their dreams.
77. Why are the Chinese people who were born after 1978 susceptible to loneliness?
- (A) Because they were born without any brothers and sisters.
  - (B) Because they have to compete ferociously for a better living condition.
  - (C) Because they are responsible for the prosperity and health of their parents.
  - (D) Because they have to struggle for their dreams amid the chaotic structural changes.
78. With which of the following statements would the author probably agree?
- (A) China's post-eighties cohort is an excellent example of a generation that benefits from nostalgia.
  - (B) Zhou believes that post-eighties Chinese are nostalgic because they are seeking consolation for their stressful childhood.
  - (C) It is no longer a Chinese custom for the oldest child in a family to take care of his/her parents.
  - (D) It is relatively easy for China's post-eighties cohort to find white collar jobs in the big cities.
79. Which of the words below has the opposite meaning to the word "vicious" in line 34?
- (A) Nefarious
  - (B) Fierce
  - (C) Uncouth
  - (D) Civilized
80. The word "scant" in line 35 could best be replaced by which of the following?
- (A) Meager
  - (B) Ample
  - (C) Strong
  - (D) Thriving



## Questions 81 - 90

The simple chicken's egg has long been known as a symbol of new life. However, less well known is that eggs can be turned into incubators to produce a raft of other molecules, including agents to combat infection. The human immune system responds to foreign substances by producing antibodies, which are specialized proteins that bind to invading organisms and toxins, block their activity and target them for destruction by other members of the immune infantry. Antibodies also circulate for extended periods in the blood, providing long-term protection against any of the same bugs that might try to make a comeback, and mothers protect their offspring by siphoning off some of their own antibodies and adding them to the foetal circulation during the latter part of pregnancy. The same is also true of chickens, but with the difference that they add their antibodies to the yolks of the eggs they lay.

Therein lies a therapeutic opportunity because exposure to specific viruses or bacteria triggers chickens to produce antibodies against these organisms. If a chicken is injected with samples of the same pathogens, this also achieves the same effect. In fact, within just a few weeks, every egg the chicken lays will contain high levels of antibodies specifically targeting those viruses or bacteria. Moreover, these antibodies can be purified from the yolks to produce what is almost antibodies on-tap.

Giving pre-formed antibodies to people who have been exposed to a particular infectious agent has long been recognized as a way of limiting disease. Historically, these antibodies have been obtained from horses or humans, but horse antibodies are risky, and human antibodies have limited availability. Hence, chicken egg antibodies might be a valuable addition to our medical arsenal. Eggs are plentiful and easily harvested. Just four eggs can produce as much antibody as an entire guinea pig. More importantly, the human immune system tolerates chicken antibodies much better than antibodies from horses.

It has been almost twenty years since the first studies using egg antibody to treat viral disease in animals were published. Back in 1994, a team of Japanese scientists first showed that calves could be protected against bovine rotavirus using chicken egg antibodies. In the past decade there have been a handful of clinical trials investigating the use of egg antibodies for infectious disease treatment in humans. Studies are also currently underway to explore the effectiveness of egg-antibodies in the treatment of the infections caused by the bacterium *Pseudomonas aeruginosa*, which has now reached phase III clinical trials that are due to be completed in September 2014. This means it is one step away from being granted approval by medical governing bodies, thus becoming the first egg antibody to be used in clinical practice.

Overall, it looks likely that the first mainstream therapeutic egg antibodies will make it into the fridges of hospital pharmacies within a few years. Most likely these antibodies will be used against just a handful of infectious disease agents to start with, but many more experimental trials, with many more people in many more countries, will see this number increase significantly over the decades to come.

81. The following are questions that the passage tries to address EXCEPT

- (A) Why are chicken egg antibodies superior to other antibodies?
- (B) How can chicken egg-yolk-antibodies be used to treat infections?
- (C) What are the possible dangers of using infection-fighting chicken egg antibodies?
- (D) How close are we to using chicken egg antibodies for human disease treatment?

82. The word "their" in line 4 refers to

- (A) antibodies.
- (B) specialized proteins.
- (C) invading organisms and toxins.
- (B) members of the immune infantry.

83. According to the passage, which of the following is NOT TRUE about antibodies?

- (A) They can be passed on by mothers to their babies.
- (B) They circulate in the blood for a long period of time.
- (C) None produced by animals can be tolerated by human bodies.
- (D) They are produced by the body to counter foreign substances.

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84. Which of the following statements about chicken eggs can be inferred from the passage?
- (A) They are more useful for humans than most people realize.
  - (B) Scientists are not very interested in using them to cure diseases.
  - (C) Antibodies obtained from them are beneficial for treating chicken infections.
  - (D) There is a limited stock of chicken eggs with suitable yolks needed by scientists.
85. The word "infectious" in line 15 means
- (A) insidious.
  - (B) precarious.
  - (C) innocuous.
  - (D) contagious.
86. According to the passage, animals that can produce antibodies for humans are
- (A) horses and chickens.
  - (B) chickens and calves.
  - (C) calves and guinea pigs.
  - (D) horses and guinea pigs.
87. Which of the following best expresses the meaning of the word "arsenal" in line 18?
- (A) Supply
  - (B) Armory
  - (C) Station
  - (D) Gallery
88. From paragraph 4, it can be inferred that studies on egg antibodies
- (A) concentrate on finding cures for cow diseases.
  - (B) have shown increasingly promising results.
  - (C) are under surveillance of policymakers.
  - (D) have never been conducted in Asia.
89. The author's attitude toward the therapeutic egg antibodies is generally
- (A) impartial.
  - (B) optimistic.
  - (C) judgmental.
  - (D) disinterested.
90. The author's purpose in writing this passage is to
- (A) contrast the antibodies obtained from humans and those from animals.
  - (B) inform that there are various studies on infectious disease treatment.
  - (C) convince that antibodies are particularly important for fighting diseases.
  - (D) elucidate that chicken eggs can be turned into a weapon to treat diseases.

Without a common language to speak, St. Augustine wrote, "a man would be more cheerful with his dog for company than with a foreigner." For eight years, Sunnat, a sixteen-year-old Uzbek captured in Afghanistan in 2001, didn't even have that: in 2002, he was transported to Guantánamo, where he did not know the *linguae francae*, English and Arabic. For all the talk he heard from his cellmates every day, he might as well have been in solitary confinement. Until his release, in 2010, he was, in the words of Peter Jan Honigsberg, a professor of law at the University of San Francisco, "alone in a sea of voices." Every morning, Sunnat told Honigsberg, he awoke to a crushing sensation of loneliness. His only coping strategy: "I cried, and then I felt better."

Sunnat was, in many ways, simply unlucky. He spoke a language that was rare at Guantánamo. (10) The camp had only six Uzbek speakers; none were housed near him. He was held for eight years not because he was dangerous but because no country, not even his native Uzbekistan, would accept him as a Guantánamo deportee. (The military was required to hold him until a nation agreed to take him.) In fact, his *innocence* isolated him further: once he was no longer deemed a threat, he ceased meeting with an Uzbek interpreter and an interrogator. Then he was denied materials to learn English and (15) Arabic, because the detention center has a policy against helping the presumed-dangerous detainees communicate with one another.

Depriving a prisoner of linguistic company can be a strategy: it can increase a prisoner's dependence on an interrogator, making him more likely to talk, or it can prevent prisoners from organizing resistance. More typically, cases like Sunnat's are unfortunate consequences of policy and circumstance. (20) Whatever the cause, Honigsberg argues in his paper, "Alone in a Sea of Voices: Recognizing a New Form of Isolation by Language Barriers, or Linguistic Isolation," the psychological effects of solitary confinement through linguistic isolation are largely the same as those via lock and key: impaired impulse control, an inability to concentrate or think clearly, confusion, obsessive behaviors, paranoia, and even a state resembling catatonia. A growing body of evidence suggests that a few weeks of solitary (25) confinement for a prisoner amounts to torture. "Isolation by language barriers," Honigsberg writes, "should be recognized as a distinct human rights abuse."

Honigsberg was surprised to find little consideration of the issue of linguistic isolation in the legal literature, and there is no reliable data on the number of prisoners in the world who are linguistically in solitary confinement. Perhaps it should be expected, however. Actual solitary confinement is lightly (30) regulated; in the U.S., for example, it carries the neutral-sounding label of "administrative segregation," and is largely left to the *discretion* of the people who run prisons and jails.

Skeptics might say that prisoners can simply learn the language of their guards and fellow inmates. In fact, under the Crime Control Act of 1990, federal prisons are required to teach English to prisoners who don't speak it. But in military jails, immigration detention centers, and many state facilities, (35) materials for learning languages are unavailable. A few prisoners have overcome these obstacles; others, like Sunnat, could not. (Sunnat's luck finally changed in July, 2010, when he was freed and sent to Latvia, where he gets by with a smattering of Russian. He has managed to join a mosque, find work, and get married.)

91. The following statements about Sunnat are true, EXCEPT

- (A) He shared no common language with his cellmates.
- (B) He was twenty-five when he was released from prison.
- (C) He was imprisoned because he was found guilty of arson.
- (D) Few people speak his language in Guantánamo prison.

92. The author's purpose in writing this passage is to

- (A) demonstrate the physical and emotional cruelty that happened in Guantánamo.
- (B) show the harmful consequences of solitary imprisonment through linguistic isolation.
- (C) tell about the unfortunate experience of Sunnat during his confinement in Guantánamo.
- (D) criticize the Crime Control Act of 1990, which does not protect the rights of all prisoners.

93. Which of the following statements about Guantánamo is true?
- (A) It is a federal prison that is run by the United States military.
  - (B) It provides English lessons to inmates who do not speak the language.
  - (C) Most prisoners in this place speak either English or Arabic.
  - (D) Throughout its history, it has only had six inmates from Uzbekistan.
94. Which of the words below has the opposite meaning to the word "innocence" line 13?
- (A) Culpability
  - (B) Impeccability
  - (C) Virtuousness
  - (D) Faultlessness
95. Below are the side effects of linguistic isolation, EXCEPT
- (A) difficulty in focusing one's mind.
  - (B) seeing or hearing things which are not there.
  - (C) failure to resist the urge that may harm oneself
  - (D) excessive suspiciousness and distrustfulness of others
96. According to the passage, linguistic isolation is all of the following EXCEPT
- (A) It can be legally used to pacify a prisoner with anger issues.
  - (B) It is a strategy designed to extract information from prisoners.
  - (C) It can be a technique to increase a detainee's reliance on an interrogator.
  - (D) It is the act of separating a detainee from speakers of the same language.
97. Which of the following words could best substitute the word "segregation" in line 30?
- (A) Renunciation
  - (B) Abnegation
  - (C) Camaraderie
  - (D) Seclusion
98. The word "discretion" in line 31 four could best be replaced by which of the following?
- (A) Accession
  - (B) Circumspection
  - (C) Acrolect
  - (D) Intelligence
99. It can be inferred from paragraph five that military prisons
- (A) are parts of the federal prison system on mainland USA.
  - (B) operate closely with immigration detention centers.
  - (C) do not have to adhere to the Crime Control Act of 1999.
  - (D) do not possess resources needed for language learning.
100. With which of the following statements would the author probably agree?
- (A) Solitary confinement through linguistic isolation has many negative impacts.
  - (B) Denying prisoners the right to communicate with others is not a cruelty.
  - (C) Linguistic isolation has been regulated by the U.S law since 1990.
  - (D) There have been too many Arab prisoners in the U.S prison system.