Section I  Listening Comprehension

(Omission)

Section II  Use of English

Directions:
Read the following text. Choose the best word(s) for each numbered blank and mark A, B, C, or D on ANSWER SHEET 1. (10 points)

We don’t fully understand the importance of sleep. What we _21_ know is that sleep is an anabolic, or building, _22_. And we think it _23_ the body’s energy supplies that have been depleted _24_ the day’s activities.

Sleep is also the time _25_ the body does most of its repair work; muscle tissue is rebuilt and restored.

Sleep is also a time for restoring _26_ energy. We spend all day thinking and creating, and that _27_ our energy stores.

One of the ways we have _28_ understanding _29_ we need to sleep so much is to look at _30_ happens if we don’t get enough sleep. It affects our personalities and our sense of humor. We may become irritable and less tolerant. Parents of small children often tell me that when they’re tired they get irritated _31_ the antics of children that might _32_ them if they were _33_ rested.

Lack of sleep clearly affects our thinking, or cognitive, processes. A sleep-deprived brain is truly running on four rather than eight cylinders. If we’re trying to be creative, the motor doesn’t work as well. We can _34_ calculations, but not _35_ quickly. We’re much more _36_ to make errors. It’s because the brain’s engine hasn’t been replenished.

Sleep deprivation also affects us _37_. Our coordination _38_. We lose our abilities to do things with agility. Sleep improves muscle tone and skin appearance. With _39_ sleep athletes run better, swim better and _40_ more weight.

[246 words]
Section III  Reading Comprehension

Part A
Directions:
Read the following four texts. Answer the questions below each text by choosing A, B, C and D. Mark your answers on ANSWER SHEET 1. (40 points)

Text 1

What might be the next alarm bell to ring? Of course, a truck bomb would intensify national nervousness by making things that are ubiquitous—trucks—seem ominous. And high explosives directed against, say, Hoover Dam would not only complicate life in the Southwest, it would underscore the unsettling message that even big things can be pulverized. However, it is time to think about attacks using things not solid and directed against things not as solid as skyscrapers or dams.

Consider cyberterrorism, assaults that can be undertaken from anywhere on the planet against anything dependent on or directed by flows of information. Call this soft terrorism. Although it can put lives in jeopardy, it can do its silent, stealthy work without tearing flesh or pulverizing structures. It can be a weapon of mass disruption rather than mass destruction, as was explained by the President’s Commission on Critical Infrastructure Protection in its 1997 report on
potential cyberattacks against the "system of systems" that is modern America.

"Life is good in America," the report says, "because things work. When we flip the switch, the lights come on. When we turn the tap, clean water flows." Now suppose a sudden and drastic shrinkage of life's "taken for granted" quotient. The report notes that terrorist attacks have usually been against single targets—individuals, crowds, buildings. But today's networked world of complexity and interconnectedness has vast new vulnerabilities with a radius larger than that of any imaginable bomb blast. Terrorists using computers might be able to disrupt information and communications systems and, by doing so, attack banking and financial systems, energy (electricity, oil, gas) and the systems for the physical distribution of America's economic output.

Hijacked aircraft and powdered anthrax—such terrorist tools are crude and scarce compared with computers, which are everywhere and inexpensive. Wielded with sufficient cunning, they can spread the demoralizing helplessness that is terrorism's most important intended byproduct. Computers as weapons, even more than intercontinental ballistic missiles, render irrelevant the physical geography—the two broad oceans and two peaceful neighbors—that once was the basis of America's sense of safety.

A threat is a capability joined with a hostile intent. In early summer 1997 the U.S. military conducted a threat-assessment exercise, code-named Eligible Receiver, to test the vulnerabilities of "borderless cyber geography." The results confirmed that in a software-driven world, an enemy need not invade the territory, or the air over the territory, of a country in order to control or damage that country's resources.

The attack tools are on sale everywhere: computers, modems, software, telephones. The attacks can shut down services or deliver harmful instructions to systems. And a cyberattack may not be promptly discovered. The report says, "Computer intrusions do not announce their presence the way a bomb does."

41. This passage is mainly about _____.
   A. future terrorist attacks
   B. fighting against terrorism
   C. weapons of mass disruption
   D. weapons of mass destruction

42. The underlined word "ubiquitous " in the first paragraph most probably means _____.
   A. common
   B. real
   C. solid
   D. tangible

43. Soft terrorism is mainly directed against _____.
   A. dams
   B. skyscrapers
C. unsettling messages
D. information systems

44. America's sense of safety may be threatened to the greatest extent when _____ are used as terrorist weapons.
   A. computers
   B. hijacked aircraft
   C. powered anthrax
   D. intercontinental ballistic missiles

45. The threat-assessment exercise once conducted in U.S. _____.
   A. obscured its cyber geography
   B. confirmed the potential threat of cyberattacks
   C. rendered irrelevant its physical geography
   D. enhanced America's sense of safety considerably

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Text 2

Foals are on their feet not long after being born. Chicks break through their shells and within hours are pecking around for food. Snakes hatch and just slither away. Humans, on the other hand, are completely helpless at birth and remain dependent on their parents for many years.

So why does it take humans so long to develop? Why is such an intelligent species helpless for so many years? The quick answer, experts believe, is that humans are the most complex living system. And the more complex the system, the longer it takes to build.

The more involved answer has to do with evolution. It took billions of years for life to evolve from single-celled microorganisms to large warm-blooded mammals. "The ultimate cause of this evolution, why and how one genetic program is selected over another is not yet clear to us," says Calvin, a professor of psychiatry and behavioral sciences at the University of Washington in Seattle. But researchers have identified some of the evolutionary factors that may have affected our developmental process, he says.

One of those factors dates back to around half a billion years ago, when two strategies for protecting offspring emerged. One group of species began to operate under a more-is-better strategy, where species produced thousands of eggs so the odds increased that some of them would survive to reproduce. The second group of species, which includes humans, took the opposite approach. They began having fewer offspring and investing more energy in the development of each. The logic is that the longer the young are protected and taught the tricks of the trade, so to speak, the better chance they have of surviving to reproduce.

Another factor is called neoteny, a developmental trend where a juvenile appearance is retained well past biological adulthood (the age at which we can reproduce). Just the fact that we look young and vulnerable increases our chances of being taken care of.
Experts say it's likely that our development also is related to the gradual increase in human brain size over millions of years. Limited by the size of the female pelvis, we evolved in a way that allows for postnatal brain growth. Because the brain plays a key role in the development of the body, this adaptation may have, in turn, forced the delay in much of our growth until we are outside the womb.

The higher intelligence and inquisitiveness of humans, our capacity for abstract thought and ability to plan ahead also play a huge role in our slow development. "Humans are capable of doing things that no other species can," says Calvin, and it simply takes us a while to master the tasks that we need to survive.

Language is a good example of this. Learning a language and the specifics of grammar, syntax and context takes years, but humans are born with an innate drive to master it.
Text 3

One of the remarkable things about laughter is that it occurs unconsciously. You don't decide to do it. While we can consciously inhibit it, we don't consciously produce laughter. That's why it's very hard to laugh on command or to fake laughter.

Laughter provides powerful, uncensored insights into our unconscious. It simply bubbles up from within us in certain situations.

Very little is known about the specific brain mechanisms responsible for laughter. But we do know that laughter is triggered by many sensations and thoughts, and that it activates many parts of the body.

When we laugh, we alter our facial expressions and make sounds. During exuberant laughter, the muscles of the arms, legs and trunk are involved. Laughter also requires modification in our pattern of breathing. We also know that laughter is a message that we send to other people. We know this because we rarely laugh when we are alone.

Laughter is social and contagious. We laugh at the sound of laughter itself.

The first laughter appears at about 3.5 to 4 months of age, long before we're able to speak. Laughter, like crying, is a way for a preverbal infant to interact with the mother and other caregivers.

Contrary to folk wisdom, most laughter is not about humor; it is about relationships between people. To find out when and why people laugh, I and several undergraduate research assistants went to local malls and city sidewalks and recorded what happened just before people laughed. Over a 10-year period, we studied over 2,000 cases of naturally occurring laughter.

We found that most laughter does not follow jokes. People laugh after a variety of statements such as "Hey John, where ya been?" "Here comes Mary," "How did you do on the test?" and "Do you have a rubber band?". These certainly aren't jokes.

We don't decide to laugh at these moments. Our brain makes the decision for us. These curious "ha ha ha's" are bits of social glue that bond relationships.

Curiously, laughter seldom interrupts the sentence structure of speech. It punctuates speech. We only laugh during pauses when we would cough or breathe.

When we laugh, we're often communicating playful intent. So laughter has a bonding function within individuals in a group. It's often positive, but it can be negative too. There's a difference between "laughing with" and "laughing at." People who laugh at others may be trying to force them to conform or casting them out of the group.

No one has actually counted how much people of different ages laugh, but young children probably laugh the most. At ages 5 and 6, we tend to see the most exuberant laughs. Adults laugh less than children, probably because they play less. And laughter is associated with play.

[459 words]
51. "You don't decide to do it." in the first paragraph most probably means that ______.
   A. you are reluctant to laugh
   B. you laugh without consciousness
   C. you cannot inhibit your laughter
   D. you are not prepared for laughing in public

52. We laugh when ______.
   A. we are not alone
   B. we hear the word of laughter
   C. we hear somebody else laughing
   D. we modify our pattern of breathing

53. According to this passage, laughter is frequently triggered simply by ______.
   A. jokes
   B. folk wisdom
   C. what one thinks himself
   D. what other people say

54. It can be inferred from the study over 2,000 cases of naturally occurring laughter that ______.
   A. laughter is rarely natural
   B. most laughter is social
   C. laughter is to enliven the speech
   D. the ability to laugh is inherent

55. This passage is mainly about ______.
   A. when and why we laugh
   B. general features of laughter
   C. the brain mechanisms of laughter
   D. an evolutionary perspective of laughter

Text 4

The blue haze represents X-ray emissions from hot gas between galaxies in the cluster MS1054-0321, 8 billion light-years away. What confines the gas within the cluster? Some propose that it's dark matter.

If gravity works the way it's supposed to, then most of the universe's mass is invisible, existing as what's come to be known as "dark matter." What's the nature of that missing mass, and what does it all mean for the fate of universe? The questions lead to some of the greatest mysteries of modern physics.

Scientists haven't even figured out yet how much total mass the universe contains — a no-less-weighty question that is linked to the dark matter debate. Indeed, the nature and amount of
dark matter determines whether the universe itself is fated to collapse back upon itself, expand into virtual nothingness or reach a state of equilibrium.

Right now, the best bet is that there isn’t enough matter for gravity to overcome the Big Bang, meaning that the universe’s current expansion will continue forever until there’s practically nothing left. In fact, some scientists are puzzling over data indicating that the expansion is accelerating.

For a long time, cosmologists worked under the assumption that there is enough matter to bring the universe into an eventual balance. Cosmologists call this balance point the critical density, and they use a variable called “omega” to describe the proportion of the universe’s actual density to the critical density.

If omega equals one, the universe is in balance and all is well for most theoretical physicists. But if omega is much less than one — as appears to be the case — then the theoreticians have a lot of explaining to do. In fact, it may indicate that we don’t fully understand how gravity works after all.

That’s why some physicists hope there’s enough undetected dark matter to fill the gap.

Figuring out the total mass of the universe may sound like an imponderable question — but surprisingly, Lawrence and other researchers hope to come up with some conclusive answers in the next decade or so. Their strategy is to measure the uneven afterglow of the Big Bang’s aftermath, known as the cosmic background radiation.

A satellite called the Cosmic Background Explorer has made a good start toward charting that afterglow. Future spacecraft such as NASA’s Microwave Anisotropy Probe and the European Space Agency’s Planck mission will map the early universe’s signature in even greater detail. By closely comparing the density differences in the background radiation, astronomers can come up with an answer for the mass question and gain some new hints as to the nature of dark matter.

“I think in 10 or 15 years we will know pretty much for sure whether the universe will expand forever, collapse back on itself or just drift,” said Lawrence, who is a principal investigator for one of the Planck research teams. “That’s pretty exciting. That’s a question that didn’t exist 100 years ago.”

56. According to this passage, the universe _____
   A. is unlikely to collapse back upon itself
   B. is still full of mysteries to be revealed by us
   C. will continue to expand until nothing exists in it
   D. will reach a state of equilibrium sooner or later

57. Some cosmologists assume that _____
   A. the universe is made of dark matter
   B. the dark matter in the universe is missing
   C. gravity may not work the way it’s supposed to
58. The variable "omega" used by cosmologists ______.
   A. tends to be 1
   B. is usually much less than 1
   C. refers to the balance point of the universe
   D. refers to the actual density of the universe

59. Cosmologists ______ the total mass of the universe.
   A. have figured out
   B. have little possibility to know
   C. are too ignorant of the nature of dark matter to estimate
   D. are expected to find some way to figure out

60. It is pointed out in the passage that ______ has contributed to the study of the Big Bang's aftermath.
   A. the theory of gravity
   B. the Cosmic Background Explorer
   C. NASA's Microwave Anisotropy Probe
   D. the European Space Agency's Planck mission

Part B

Directions:
Read the following text carefully and then translate the underlined segments into Chinese. Your translation should be written clearly on ANSWER SHEET 2. (10 points)

The debate over "passive" smoking is about to flare into further controversy with new research pointing to a very low risk of lung cancer among those living with smokers. 61) The findings to be published next month — based on 35 international studies of lung cancer rates among women married to smokers — suggest that the extra risk is 60 per cent lower than that claimed by scientists last week and that the additional risk may be completely negligible. Long-running controversy over the issue was rekindled by two studies published in the British Medical Journal. 62) The first study, by a team at the Royal London School of Medicine, claimed that dozens of studies of lung cancer rates among non-smokers living with smokers pointed to a 26 per cent greater risk of contracting the disease as a result of passive smoking. The second report, by another team at the same unit, was based on 19 studies of the risk of heart disease caused by passive smoking. It found that passive smokers faced a 30 per cent extra risk if they lived with a smoker.

According to Dr Malcolm Law, who led the team, the explanation lies in the ability of even tiny amounts of tobacco smoke to trigger blood clots which lead to heart attacks. But new
research, to appear in the journal Statistical Science, points to a far simpler explanation. Dr Law and his colleagues might have overlooked studies showing little or no effect of passive smoking. According to Dr Geof Givens and colleagues at Colorado State University, such studies tend to gain little exposure because scientists think that the results are not worthwhile, or they are rejected by scientific journals.

63) Dr Givens and his colleagues have re-analysed 35 studies linking passive smoking and lung cancer among non-smoking women married to smokers, taking into account the likely impact of the missing studies. They found that the effect is far from negligible. 64) "Failing to allow for these would mean the estimated excess risk may be overstated by around 30 per cent, both in US studies and in the global collection of studies."

The Colorado team has also re-analysed one of the most influential studies of passive smoking, published by the US Environmental Protection Agency in 1992. 65) The agency claimed that non-smoking women married to smokers faced a 19 per cent higher risk of lung cancer. Taking into account publication bias, the Colorado team found that the extra risk fell to 10 per cent - 60 per cent lower than that claimed last week — and could be completely negligible.

The team concluded that unless publication bias was taken into account "we still run grave risks of making decisions based on very limited, and very biased, data."

[451 words]

Section IV  Writing

66. Directions:

On September 11, 2001, two hijacked planes slammed into New York’s landmark World Trade Center, demolishing the twin towers that were once the tallest buildings in the world and burying thousands of people alive.

Write an essay to

1. describe the terrorist attacks on America happened on Sept. 11, and
2. give your comment on this tragedy.

You should write about 200 words neatly on ANSWER SHEET 2.

(20 points)
参考答案

Section I  Listening Comprehension (Omission)

Section II  Use of English


Section III  Reading Comprehension

Part A

Part B
61. 基于国际上对与吸烟者结婚的妇女的肺癌发生率所进行的35项研究而获得的发现将于下月公之于众。这些发现表明，因“被动吸烟”带来的得肺癌的风险要比科学家上周所说的低60%。还表明，这种额外风险或许完全微不足道。
62. 第一篇论文是由伦敦皇家医学院的研究组完成的。该论文指出，对与吸烟者一起生活的不吸烟者开展的肺癌发生率的数十项研究表明，由于被动吸烟的结果，得肺癌的风险升高了26%。
63. 上面提到国际上对与吸烟者结婚的不吸烟妇女进行了35项有关被动吸烟和肺癌关系的研究。吉文斯大夫和他的同事考虑到那些人们忽略的研究可能产生的影响，对这35项研究作了重新分析。
64. “没有把这些研究考虑进去，这意味着，对被动吸烟所造成的得肺癌的额外风险所作的估计或许被夸大了大约30%。在美国以及世界各地所发表的研究论文都是如此。”
65. 美国环境保护局说，与吸烟者结婚的不吸烟妇女得肺癌的风险升高了19%。科罗拉多州的研究组考虑到发表论文时对论文倾向选择的偏差，他们发现被动吸烟所造成的得肺癌的额外风险要比上周所说的低10%-60%，这种额外风险也可能是全然微不足道的。

Section IV  Writing

Terrorist Attacks on America

On Sep. 11th, at 8:45, Flight 11 of American Airline from Boston to New York, was hijacked, and crashed into the south building of the World Trade Center in Manhattan. The plane tore the building into 2 parts and bombed at about the height of the 20th floor.
At 9:03, another plane crashed into the north building of W.T.C. and led to a great bombing, which killed hundreds of people.

At 10:10, another Flight of AA, which was also hijacked fell down in Summerset, Pennsylvania.

When I was surfing on the net last night, I found out that the number of people killed and disappeared came up to 5875.

I have deep sympathy for the American people and the Afghan people, and so do thousands of Chinese people, I believe. After this terrible event, there are mainly two opinions shown on the Internet. One, which most people are for, is that the U.S deserves it. Partly, I agree with them. The U.S government should have a reflection of the reason why this destruction happened to the U.S, but not China, or any other county. But the American people should not be sacrificed as victims. The U.S government did use power politics to interfere many international affairs. The U.S government did make many people in Middle East wretched and treated unfairly. Therefore, the terrorists from Islamic counties take this extreme action to realize their revenges, at the cost of thousands of lives. And America was determined to revenge, even at the expense of tens of thousands of lives.

The War is at doom!
And so is the destruction.

But is it a war to reestablish justice and righteousness or a war aroused by hegemonism and power politics?

However, it is always obvious that the people, wherever they live and whoever they are, should not be the victims.

We don't need power politics! We don't need terrorism! We don't need the war!
Please, heal the world!

[324 words]