

2008 年职称英语理工类教材新增部分内容

第二部分 阅读判断

(两篇)

第七篇

Moderate earthquake strikes England

A moderate earthquake struck parts of southeast England on 28 April 2007, toppling chimneys from houses and rousing residents from their beds. Several thousand people were left without power¹ in Kent County². One woman suffered minor head and neck injuries.

"It felt as if the whole house was being slid across like a fun-fair ride³," said the woman.

The British Geological Survey said the 4.3-magnitude quake⁴ struck at 8:19 a.m. and was centered under the English Channel⁵, about 8.5 miles south of Dover⁶ and near the entrance to the Channel Tunnel⁷.

Witnesses said cracks appeared in walls and chimneys collapsed across the county. Residents said the tremor had lasted for about 10 to 15 seconds.

"I was lying in bed and it felt as if someone had just got up from bed next to me," said Hendrick van Eck, 27, of Canterbury⁸ about 60 miles southeast of London. "I then heard the sound of cracking, and it was getting heavier and heavier⁹. It felt as if someone was at the end of my bed hopping up and down."

There are thousands of moderate quakes on this scale around the world each year, but they are rare in Britain. The April 28 quake was the strongest in Britain since 2002 when a 4.8-magnitude quake struck the central England city of Birmingham¹⁰.

The country's strongest earthquake took place in the North Sea in 1931, measuring 6.1 on the Richter scale¹¹. British Geological Survey scientist Roger Musson said the quake took place on 28 April in an area that had seen several of the biggest earthquakes ever to strike Britain, including one in 1580 that caused damage in London and was felt in France¹². Musson predicted that it was only a matter of time¹³ before another earthquake struck this part of England. However, people should not be scared too much by this prediction, Musson said, as the modern earthquake warning system of Britain should be able to detect a forthcoming quake and announce it several hours before it takes place. This would allow time for people to evacuate and reduce damage to the minimum.

词汇:

moderate adj. 中等的
magnitude n. 值, 强度量
topple v. 倾倒, 震倒
rouse v. 唤醒
tremor n. 震动
hop v. 齐足跳起

fun-fair n. 公共露天游乐场

scale n. 震级

Forthcoming adj. 即将来临的 evacuate v. 疏散

geological adj. 地质的

注释:

- power: 电力
- Kent County: 肯特郡[位于英格兰东南部]
- It felt as if the whole house was being slid across like a fun-fair ride: 它(地震)给人的感觉是整幢房子就像游乐场的滑行机一样在滑动。ride 是“游乐场供人玩乐的乘坐式的活动装置”。as if 是“好象.....一样; 仿佛”, 例如:
He treated me *as if* I were his son.
(他待我如同他的儿子一样。)
- the 4.3-magnitude quake: 里氏 4.3 级地震
- English Channel: 英吉利海峡
- Dover: 多佛尔[英格兰东南部港市]
- Channel Tunnel: 海峡隧道。Channel Tunnel (常简称为 Chunnel) 是连接英法两国的海峡隧道。
- Canterbury: 坎特伯雷[英格兰东南部城市, 中世纪时曾是宗教朝圣圣地]
- it was getting heavier and heavier: 爆裂声越来越响
- Birmingham: 伯明翰[英格兰中部城市]
- the Richter scale: 里氏震级表。美国地震学家 Charles Francis Richter (1900-1985) 于 1935 年制定了地震震级表。
- British Geological Survey scientist Roger Musson said the quake took place on 28 April in an area that had seen several of the biggest earthquakes ever to strike Britain, including one in 1580 that caused damage in London and was felt in France: 英国地质勘测所的科学家 Roger Musson 说, 这次 4 月 28 日遭遇地震的地区就是经受过袭击英国最强烈的几次大地震的同一地区, 其中的一次大地震发生在 1580 年, 那次地震蹂躏了伦敦, 巴黎也能感到它的震波。
- a matter of time: 时间问题。又如: It's not a matter of money (这不是个钱的问题。)

练习:

- During the April 28 earthquake, whole England was left without power.
A. Right B. Wrong C. Not mentioned
- The Channel Tunnel was closed for 10 hours after the earthquake occurred.
A. Right B. Wrong C. Not mentioned
- It was reported that one lady had got her head and neck injured, but not seriously.
A. Right B. Wrong C. Not mentioned
- France and several other European countries sent their medical teams to work side by side with the British doctors.

A. Right B. Wrong C. Not mentioned
- The country's strongest earthquake took place in London .in 1580.
A. Right B. Wrong C. Not mentioned
- Musson predicted that another earthquake would occur in southeast England sooner or later.
A. Right B. Wrong C. Not mentioned
- It can be inferred from the passage that England is rarely hit by high magnitude earthquakes.
A. Right B. Wrong C. Not mentioned

答案与题解:

1. B 题句说 2007 年 4 月 28 日的地震致使全英格兰都停电,与短文第一段第一句表达的内容不符。短文说地震殃及英格兰东南部的肯特郡部分地区,电力中断,几千名居民无电可用。所以,题句是错误的,答案为 B。
2. C 本题所说的意思是:地震发生后,海峡隧道关闭了 10 小时。题句表达的内容短文中找不到,故答案为 C。
3. A 题句的意思是:地震中一个妇女的头部和颈部受了点轻伤。题句表达的意思与第一段第一句表达的内容相符。所以选项 A 是答案。
4. C 题句表达的意思是:法国和其他几个欧洲国家派遣他们的医疗队去英国与当地的医生并肩工作。这一内容短文中找不到,故答案为 C。
5. B 题句所说的英国最强烈的地震于 1580 年发生在伦敦,这与短文表述的事实不符。短文第七段第一句明白无误地说,英国最强烈的地震于 1931 年发生在北海。题句表达的信息是错误的,故答案为 B。
6. A 题句说 Musson 预言在英格兰东南部迟早将发生另一次地震。这一说法与短文最后一段第三句所表达的意思相符。短文中说,另一次地震将袭击英格兰东南部,这只是个时间问题。所以答案是 A。
7. A 短文第六段第一句说,全球每年发生强度为里氏 4 级左右的地震有几千次,但是这种中等强度的地震英格兰很少发生。据此,读者可以容易地推断出,高震级的地震在英格兰就更少见了。

第十篇**Irish Dolphins may have a unique dialect**

Irish scientists monitoring dolphins living in a river estuary in the southwest of the country believe they may have developed a unique dialect to communicate with each other.

The Shannon Dolphin and Wildlife Foundation (SDWF)¹ has been studying a group of up to 120 bottle-nose dolphins in the River Shannon² using vocalisations collected on a computer in a cow shed³ near the River Shannon.

As part of a research project, student Ronan Hickey digitised and analysed a total of 1,882 whistles from the Irish dolphins and those⁴ from the Welsh dolphins on a computer and separated them into six fundamental whistle types and 32 different categories⁵. Of the categories, he found most⁶ were used by both sets of dolphins⁷ -- but eight were only heard from the Irish dolphins.

"We are building up a catalogue of the different whistle types they use and trying to associate them with behaviour like foraging, resting, socialising and the communications of groups with calves," project leader Simon Berrow said. "Essentially we are building up what is like a dictionary of words they use or sounds they make."

Berrow, a marine biologist, said the dolphins' clicks are used to find their way around and locate prey. The whistles are communications. "They do a whole range of other sounds like barks, groans and a kind of gunshot," he said. "The gunshot is an intense pulse of sound. Sperm whales use it to stun their prey.

"When I first heard it I was surprised as I thought sperm whales were the only species who used it. We can speculate the dolphins are using it for the same reason as the sperm whales," Berrow said.

References⁸ in local legend indicate there have been dolphins in the Shannon estuary for generations and they may even have been resident there as far back as the 6th century⁹.

They are regularly seen by passengers on the Shannon ferry and an estimated 25,000 tourists every year take special sightseeing tours on local boats to visit them.

词汇:

Irish adj. 爱尔兰的
socialise v. 社交, 交往
Dolphin n. 海豚
bottle-nose dolphin 宽吻海豚
sperm whale 巨头鲸
click n. 咔哒声, 喀嚓声
estuary n. 河口, 江口
vocalisation n. 发声
shed n. 小屋, 棚
digitalise v. 使数字化
whistle n. 啸声
forage v. 搜寻(食物)
prey n. 被捕食的动物
gunshot n. 射击声
groan n. 呻吟, 叹息
pulse n. 脉冲
stun v. 击昏

注释:

1. The Shannon Dolphin and Wildlife Foundation (SDWF): 香农海豚与野生生物基金会。
2. the Shannon River: 香农河[位于爱尔兰共和国的中西部]
3. cow shed: 牛棚
4. those 指代前半句的 whistles。
5. Ronan Hickey...separated them into six fundamental whistle types and 32 different categories: Ronan Hickey 将啸声划分为 6 大类 32 种
6. most = most categories
7. both sets of dolphins 是指 the Irish dolphins 和 the Welsh dolphins。
8. References in local legend: 当地传说中的有关说法
9. they may even have been resident there as far back as the 6th century: 海豚可能早在公元 6 世纪就在香农河河口繁衍生息, resident 是形容词, 意思是“居住的”。

练习:

1. The difference in eating habits between the bottle-nose dolphins and the sperm whales interested the SDWF scientists.
A. Right B. Wrong C. Not mentioned
2. Ronan Hickey analysed almost 2000 different dialects of the bottle-nose dolphins. .
A. Right B. Wrong C. Not mentioned
3. Of the 32 categories, eight were produced only by the Irish dolphins.
A. Right B. Wrong C. Not mentioned
4. Whistles could also be used to communicate between adult dolphins and baby dolphins.
A. Right B. Wrong C. Not mentioned
5. Sperm whales can produce stronger ultrasonic waves to kill their prey than dolphins.
A. Right B. Wrong C. Not mentioned

6. As early as the 6th century, Irish fishermen started raising dolphins in the Shannon estuary.
A. Right B. Wrong C. Not mentioned
7. Irish dolphins attract tourists and over 25,000 people come to see them every year.
A. Right B. Wrong C. Not mentioned

答案与题解:

- C 本题所说的意思是宽吻海豚与巨头鲸进食习惯上大相径庭, 这一点令科学家很感兴趣。题句表达的内容短文中找不到, 故答案为 C。
- B 题句的意思是: Ronan Hickey 分析了爱尔兰海豚发出的近 2000 种不同的方言。这句话与短文中叙述的意思不符。第三段第一句说: Ronan Hickey 分析了爱尔兰海豚和威尔士海豚(不仅仅是爱尔兰海豚)发出的近 2000 种不同的啸声(不是方言)。所以, 本题选项 B 是答案。
- A 题句表达的意思与第三段第二句所述的内容相符。32 种啸声中有 8 种是爱尔兰海豚独有的。所以答案是 A。
- A 短文第四段第一句说科学家正在设法将啸声与海豚的行为特性联系起来, 其中也包括成年海豚与小海豚之间的联络这一行为。题句的意思与原句的意思相符, 所以答案是A。
- C 本题所说的意思是鲸鱼能发出比海豚更强烈的超声波去杀死猎物。题句表达的内容短文中找不到, 故答案为 C。
- B 短文第五段说的是, 早在公元 6 世纪海豚就在香农河河口繁衍生息, 而没有说早在公元 6 世纪渔民开始在香农河河口养殖海豚。题句的意思与文章的意思不符, 所以答案是B。
- A 题句表达的意思与最后一段的意思相符。原文说大约每年有 25000 名游客专程到此乘坐当地的小船观看海豚。所以答案是 A。

第三部分 概括大意与完成句子 (两篇)

第四篇

Compact Disks

- If someone says to you your music CDs don't really hold any music on them, and they only have numbers recorded on them, you may not believe it. In fact, he is right in that sound is actually recorded onto the CDs as special numbers - a digital code¹. The code is pressed onto the CD as bumps on a long spiral track almost five kilometers long. These bumps are an average of 0.5 microns wide
- A small laser beam shines onto the bumps as the CD turns. The light is reflected back to a receiver that records how the laser light bounces back. This lets the CD player² turn the reflected light back into the original code. This means you can hear the original code as music.
- Digital codes are used with many technologies. E-mail needs these kinds of code numbers. Space probes communicate with their ground station on earth using digital codes. Bar codes are read as digital codes in computer systems. Digital communications with cell phones need digital codes. Weather radios also tune in to specific signals using these codes.
- There are many types of compact disks. One format is called CD-RWs. They can be recorded on and re-recorded on (rewritten on) as you would do with a floppy disk³. Another format is the CD-ROM. The technology for recording on these disks is different from other CDs. These CDs have a dye layer that the CD writer can darken or leave clear. The clear and dark spots are the digital code. CD-ROM stands for Compact Disc - Read Only Memory⁴. This disk is like a "super" floppy disk that can hold lots of information. One CD-ROM can hold the same amount

of data as 500 floppy disks. Information is permanently recorded onto it. Computer games and other programs are considered to be CD-ROMs.

- 5 CDs were first sold to the public in 1982. These CDs still play well and sound fine. Current CDs are expected to last between 70 to 200 years. Of course, you can make sure your CDs last a long time by taking care of them.
- 6 Science keeps on developing. It may not be many more years before a completely new technology is invented⁵ and introduced to the public for music recording. In the meantime, there is no doubt you will continue to enjoy listening to your favorite music on CDs⁶ and playing your favorite computer games on CD-ROMs.

词汇:

- bump n. 隆块, 隆起
 floppy disk 软(磁)盘
 spiral adj. 螺旋形的
 format n. 格式
 probe n. 探测器
 dye n. 染色
 floppy adj. 松软的
 permanently adv. 永久地

注释:

1. he is right in that sound is actually recorded onto the CDs as special numbers - a digital code: 他说的对, 因为实际上声音以特殊的数字的形式, 即数码, 刻录在 CD 碟片上。
 in that 是 "因为", 如:
 Water is essential in that without it all living things would die.
 (水是基本要素, 因为没有水, 所有生物都要死亡。)
2. CD player: CD 播放机
3. as you would do with a floppy disk: 就象你使用软磁盘一样
4. CD-ROM stands for Compact Disc - Read Only Memory: CD-ROM 是 Compact Disc - Read Only Memory 这五个词首字母的组成的缩写词。
5. It may not be many more years before a completely new technology is invented: 过不了几年, 说不定又会发明一种全新的技术…。many more years 是 "再过许多年"。
6. "there is no doubt you will continue to enjoy listening to your favorite music on CDs" 语法上可以理解为 "there is no doubt (about the fact that) you will continue to enjoy listening to your favorite music on CDs"。

练习:

1. Paragraphs 1 & 2
2. Paragraph 3
3. Paragraph 4
4. Paragraph 5
 - A Digital code has wide applications.
 - B Floppy disks are outdated.
 - C CDs are durable.
 - D CD's working principle is explained.
 - E CD-RWs play better than CD-ROMs.
 - F CDs are of many formats.
5. One advantage of CD-RWs is that they can _____ like floppy disks.
6. The author predicts it will not _____ before a new technology is invented for music recording.

7. The laser beam-emitting device and the receiver are considered to _____ of a CD player.
8. Space probes could not _____ without using digital codes.
- A shine on bumps
B take many more years
C be the key parts
D restore the original code
E be written on and rewritten on
F keep contact with their ground station efficiently

答案与题解:

- D 第一、二段介绍了 CD 的工作原理。声音以数码的形式刻录到 CD 碟片上。要回听声音,就得用 CD 放音机,CD 机用激光照射 CD,接收器收和分析从 CD 反射回来的激光波,还原为原来的数码,再转换为原来的声音。所以, D 是答案。
- A 第三段第一句{"Digital codes are used with many technologies."} 是主题句。本段其它句子提供例证,即应用领域。作者例举了 5 个领域:电邮、航天通讯、条码、手机和天气预报。选项 A 的"Digital code has wide applications"与主题句的意思完全吻合,所以是答案。
- F 第四段第一句("There are many types of compact disks") 是主题句。本段其它句子列举了两种常用的 CD 格式(format),一种是 CD-RW,另一种是 CD-ROM。选项 F 的"CDs are of many formats"概括了本段的大意,是答案。
- C 第五段说的是 CD 碟片经久耐用,1982 年上市的 CD 碟片至今还能使用,其音质依旧。现在上市的 CD,更加耐用,如果使用得当,其寿命可达 70—200 年。选项 C 用了 durable 予以概括是很恰当的,所以, C 是答案。
- E 第四段中出现 CD-RW 这个词,介绍了"They can be recorded on and re-recorded on (rewritten on)。这就是选 E 的依据。
- B 第六段能找到与答案有关的句子,即 It may not be many more years before a completely new technology is invented and introduced to the public for music recording.
- C 第二段说到在 CD 机上还原数码时依靠的是激光发射装置和接收器。由此我们可以推论出激光发射器和接收器是 CD 机的主要部件。所以 C 是答案。
- F 第三段第三句("Space probes communicate with their ground station on earth using digital codes") 是选 F 的依据。

第十一篇

The Tiniest Electric Motor in the World

- Scientists recently made public the tiniest electric motor ever¹ built. You could stuff hundreds of them into the period at the end of this sentence. One day a similar engine might power a tiny mechanical doctor that would travel through your body to remove your disease.
- The motor works by shuffling atoms between two molten metal droplets in a carbon nanotube. One droplet is even smaller than the other. When a small electric current is applied to the droplets, atoms slowly get out of the larger droplet and join the smaller one. The small droplet grows - but never gets as big as the other droplet - and eventually bumps into the large droplet. As they touch, the large droplet rapidly sops up the atoms it had previously lost. This quick shift in energy produces a power stroke².
- The technique exploits the fact that surface tension -- the tendency of atoms or molecules to resist separating -- becomes more important at small scales³. Surface tension is the same thing that allows some insects to walk on water.
- Although the amount of energy produced is small -- 20 microwatts -- it is quite impressive in relation to the tiny scale of the motor⁴. The whole setup⁵ is less than 200 nanometers on a

side, or hundreds of times smaller than the width of a human hair. If it could be scaled up to the size of an automobile engine⁶, it would be 100 million times more powerful than a Toyota Camry's 225 horsepower V6 engine.

5. In 1988, Professor Richard Muller and colleagues made the first operating micromotor, which was 100 microns across⁷, or about the thickness of a human hair. In 2003, Zettl's group created the first nanoscale motor. In 2006, they built a nanoconveyor, which moves tiny particles along like cars in a factory.
6. Nanotechnology engineers try to mimic nature, building things atom-by-atom. Among other things, nanomotors could be used in optical circuits to redirect light, a process called optical switching. Futurists envision a day when nanomachines, powered by nanomotors, travel inside your body to find disease and repair damaged cells.

词汇:

shuffle v. 来回运动
 nanometer n. 纳米, 毫微米
 molten adj. 熔化的
 micromotor n. 微电机
 droplet n. 小滴
 nanotube n. 纳米管
 nanoconveyor n. 纳米传送带
 nanotechnology n. 纳米技术
 bump v. 碰撞
 mimic v. 模仿
 sop v. 吸入
 stroke n. 行程, 冲程
 microwatt n. 微瓦
 nanomotor n. 纳米发动机
 nanomachine n. 纳米机器

注释:

1. ever: 比以往任何时候, 曾经。如:
This is the best book I have ever read.
(这是我读过的书中最好的一本。)
2. power stroke: 动力行程
3. at small scales: 在小等级上。这里指的是 "在纳米等级上".
4. it is quite impressive in relation to the tiny scale of the motor: 与电动机的小等级相比, 功率是相当可观了。in relation to 是 "与……相比", 如:
The city is quite large in relation to its population.
(就人口而言, 这个城市相当的大。)
5. setup: 装置。这里指 nanomotor.
6. If it could be scaled up to the size of an automobile engine: 如果纳米电动机能按比例放大到汽车发动机的尺寸。scale...up to 是 "把……按比例放大到……".
7. across: 从一端到另一端

练习:

1. Paragraph 2
 2. Paragraph 4
 3. Paragraph 5
 4. Paragraph 6
- A An introduction of a Toyota's 225 horsepower V6 engine.
 B A description of the nanomotor in terms of power and size.

- C Surface tension.
 D Previous inventions of nanoscale products.
 E The working principle of the nanomotor.
 F Possible fields of application in the future.
5. Doctors envision that the nanomotor would travel through human bodies to _____ .
6. Surface tension means the tendency of atoms or molecules to _____ .
7. Nanoconveyors could be used to _____ .
8. Applying a small electric current causes atoms to _____ .
- A remove disease
 B resist separating
 C shuffle between two molten metal droplets
 D power nanomachines
 E sop up molecules from the large droplet
 F transport nanoscale objects

答案与题解:

1. E 第二段介绍了纳米发动机的工作原理。两小滴金属熔液通上微弱电流，大的小滴的原子就会缓慢逸出，加入小的小滴，后者体积不断增大，到一定阶段，就会与前者碰撞，这时，大的小滴便夺回它失去的原子，这就是一次 power stroke（动力行程，动力冲程），此时就会产生发动机的动力。原子如此来来去去运动，就象发动机活塞一样。这就是纳米发动机的工作原理。所以，E 是答案。
2. B 第四段描述了纳米发动机的功率（20 微瓦）和体积（200 纳米）。选项 B 用 "A description of the nanomotor in terms of power and size" 概括本段大意，很准确，所以，B 是答案。
3. D 第五段介绍了发明纳米发动机之前的一些纳米等级的机械产品，如体积大一些的纳米发动机，微型发动机，纳米传送带，纳米机器等。选项 D 概括了本段的大意，所以是答案。
4. F 第六段预想了纳米发动机的用途，如用于光电路以改变光的方向（redirect light）和驱动纳米机器进入人体，消灭病灶。选项 F 是答案，因为 "Possible fields of application in the future" 概括了本段的大意。
5. A 答案是 A。题干出现 doctors envision，选项的内容应与医学有关，选项 A 是 remove disease，正好与题干的内容相配，是答案。短文第一段和最后一段也提到纳米发动机进入人体消灭病灶的可能性，证明了选 A 是正确的。
6. B 选 B 的依据是第三段第一句 "surface tension -- the tendency of atoms or molecules to resist separating -- becomes more important at small scales".
7. F 题干的 nanoconveyor 提示我们，纳米传送带的功能自然是传送纳米等级的物体，所以，F 是答案。
8. C 题干的 Applying a small electric current... 在第二段能找到，该段讲的是纳米发动机的工作原理。如果了解原子在两小滴金属熔液中来回运动，产生动力，就会知道 C 是答案。

第四部分 阅读理解

(八篇)

1. Electric Backpack (C 级)

(替换 2007 年用书理工类阅读理解第二篇: Will Quality Eat up the US Lead in Software?)

Backpacks are convenient. They can hold your books, your lunch, and a change of clothes, leaving your hands free to do other things. Someday, if you don't mind carrying a heavy load, your backpacks might also power your MP3¹ player, keep your cell phone running, and maybe even light your way home.

Lawrence C. Rome and his colleagues from the University of Pennsylvania in Philadelphia² and the Marine Biological Laboratory in Woods Hole³, Mass. ⁴, have invented a backpack that makes electricity from energy produced while its wearer walks. In military actions, search-and-rescue operations, and scientific field studies, people rely increasingly on cell phones, global positioning system (GPS)⁵ receivers, night-vision goggles, and other battery-powered devices to get around and do their work.. The backpack's electricity-generating feature could dramatically reduce the amount of a wearer's load now devoted to spare batteries, report Rome and his colleagues in the Sept. 9 *Science*⁶.

The backpack's electricity-creating powers depend on springs used to hang a cloth pack from its metal frame. The frame sits against the wearer's back, and the whole pack moves up and down as the person walks. A gear mechanism converts vertical movements of the pack to rotary motions of an electrical generator, producing up to 7.4 watts.

Unexpectedly, tests showed that wearers of the new backpack alter their gaits in response to the pack's oscillations, so that they carry loads more comfortably and with less effort than they do ordinary backpacks. Because of that surprising advantage, Rome plans to commercialize both electric and non-electric versions of the backpack.

The backpack could be especially useful for soldiers, scientists, mountaineers, and emergency workers who typically carry heavy backpacks. For the rest of us, power-generating backpacks could make it possible to walk, play video games, watch TV, and listen to music, all at the same time. Electricity-generating packs aren't on the market yet, but if you do get one eventually, just make sure to look both ways before crossing the street!

词汇:

backpack n. 背包

watt n. 瓦 (特)

receiver n. 接收机

gait n. 步态, 步法

night-vision goggle 夜视镜

oscillation n. 摆动

spring n. 弹簧

commercialize v. 商业化

vertical adj. 垂直的

mountaineer n. 登山运动员

rotary adj. 旋转的

注释:

1. MP3 : Internet 上最流行的音乐格式, 最早起源于 1987 年德国一家公司的 EU147 数字传输计划, 它利用 MPEGAudioLayer3 的技术, 将声音文件用 1:12 左右的压缩率压缩, 变成容量较小的音乐文件, 使传输和储存更为便捷, 更利于互联网用户在网上试听或下载到个人计算机。

2. Philadelphia: 费城[美国宾夕法尼亚州东南部港市]
3. Woods Hole: 美国马萨诸塞州的一个渔村,也是许多重要研究机构所在地,如: the Marine Biological Laboratory, the Sea Education Association 以及 the Woods Hole Oceanographic Institution.
4. Mass.: Massachusetts 的缩写: 马萨诸塞州, 美国东北部的一个州。
5. global positioning system (GPS): 全球定位系统
6. *Science*: 美国的 *Science* 杂志为国际上著名的自然科学综合类学术期刊, 在世界学术界享有盛誉。 *Science* 杂志创刊于 1880 年, 该杂志具有新闻杂志和学术期刊的双重特点, 每周除向世界各地发布有关科学技术和科技政策的重要新闻外, 还发表全球科技研究最显著突破的研究论文和报告。

练习:

1. Backpacks are convenient because
 - A) they can be very large
 - B) they can hold as many things as you want to carry.
 - C) your hands are freed to do other things.
 - D) you do not have to carry things with you.
2. What is the most important feature of the backpack invented by Lawrence C. Rome and his colleagues?
 - A) It produces electricity for electronic devices while the wearer walks.
 - B) It can be used as cell phones, GPS in the military actions or field studies.
 - C) It is small and convenient.
 - D) It is light and easy to carry.
3. The word “springs” in Paragraph 3 means
 - A) a small stream of water flowing naturally from the earth.
 - B) the season of the year, occurring between winter and summer.
 - C) the act or an instance of jumping or leaping.
 - D) a length of metal wound around, which returns to its original shape after being pushed.
4. According to Paragraph 4, what does Rome plan to do?
 - A) To make the backpack more comfortable for the wearer.
 - B) To put the backpack on the market.
 - C) To test the advantage of the backpack.
 - D) To promote the backpack in a newspaper or on television.
5. What is implied in “if you do get one eventually, just make sure to look both ways before crossing the street!”
 - A) You will be too excited to watch the traffic.
 - B) Enjoying electronic devices while walking may invite traffic accidents.
 - C) It is not possible for you to get such a backpack.
 - D) It is wise of you to have such a backpack.

答案与题解:

1. C 第一段告诉我们, 因为背包可以装许多东西, 所以可以将双手解放出来做其它事情: to free your hands to do other things.
2. A 第二段的第一句说, Lawrence C. Rome 及其同事们发明的这种背包, 当背着背包

走路时，会有电能产生；该段最后一句告诉我们，背包的这种性能可减少背包的重量，因为不必携带备用电池。

3. D “springs”在此是弹簧的意思。spring 是一个多义词：泉水（A）、春天（B）、弹跳（C）。
4. B 第四段最后一句的意思是：Rome 计划将这种背包商业化，即，推向市场。A、C、D 在文中均未提到。D 的意思是背包做广告。
5. B 这个句子的字面意思是：如果你终于得到这样的背包，过马路时一定要两面都看看。也就是说，不要因为同时玩着游戏、听着音乐、看着电视，太专注以致不注意来往车辆了。

2. Flying the Hyper¹ Skies (C 级)

(替换 2007 年用书理工类阅读理解第六篇：Live with Computer)

A little airplane has given new meaning to the term “going hyper.”

The Hyper-X² recently broke the record for air-breathing jet planes when it traveled at a hypersonic speed of seven times the speed of sound. That’s about 5,000 miles per hour. At this speed, you’d get around the world – flying along the equator – in less than 5 hours.

The hyper-X is an unmanned, experimental aircraft just 12 feet long. It achieves hypersonic speed using a special sort of engine known as a scramjet³. It may sound like something from a comic book, but engineers have been experimenting with scramjets since the 1960s.

For an engine to burn fuel and produce energy, it needs oxygen. A jet engine, like those on passenger airplanes, gets oxygen from the air. A rocket engine typically goes faster but has to carry its own supply of oxygen. A scramjet engine goes as fast as a rocket, but it doesn’t have to carry its own oxygen supply.

A scramjet’s special design allows it to obtain oxygen from the air that flows through the engine. And it does so without letting the fast-moving air put out the combustion flames. However, a scramjet engine works properly only at speeds greater than five times the speed of sound.

A booster rocket carried the Hyper-X to an altitude of about 100,000 feet for its test flight. The aircraft’s record-beating flight lasted just 11 seconds. Although the little plane’s self-powered flight lasted only 11 seconds, that brief journey on March 27 makes a major milestone on the way to a new breed of very fast airplanes, comments Werner J. A. Dahm of the University of Michigan in Ann Arbor⁴. In the future, engineers predict, airplanes equipped with scramjet engines could transport cargo quickly and cheaply to the brink of space. Such hypersonic jets could potentially carry passengers anywhere in the world in just a few hours.

Out of the three experimental Hyper-X aircrafts built for NASA⁵, only one is now left. The agency has plans for another 11-second hypersonic flight, this time at 10 times the speed of the sound.

词汇：

- hypersonic adj. 超音速的
- booster n. 助推器
- equator n. 赤道
- milestone n. 里程碑

unmanned adj. 无人的
booster rocket 助推火箭
scramjet n. 超音速燃烧冲压式, 喷气发动机
cargo n. 货物
combustion n. 燃烧 brink n. 边缘

注释:

1. Hyper: 构词词素, 意思是: 超, 极度的; 例如: hypersonic (超音速), hyper text (超文本), hyperactive (极度活跃)。
2. Hyper-X: 美国国家航空和宇宙航行局进行了多年的超音速飞机研究项目 (Hyper X Program) 中的一架实验飞机。
3. scramjet: 该词由三个词素缩略而成: s(upersonic 超音速), c(ombustion: 燃烧) 和 ramjet (喷气引擎), 即, 一种喷气式飞机发动机, 设计用于极超音速飞行, 燃料在飞机产生的极超音速气流中燃烧。
4. Ann Arbor: 美国密歇根州 (Michigan) 的一个城市, 华盛顿郡政府所在地, 因密歇根大学而闻名。
5. NASA: 是 National Aeronautics and Space Administration 的缩写, 中文译名是: (美国) 国家航空和宇宙航行局。

练习:

1. The Hyper X broke the record because
 - A) It was the first air-breathing jet plane.
 - B) It flew along the equator.
 - C) It flew at speeds smaller than five times the speed of sound.
 - D) It traveled at a supersonic speed.
2. What kind of an engine did the Hyper X use?
 - A) A jet engine that gets oxygen from the air.
 - B) A scramjet engine that doesn't carry its own oxygen supply.
 - C) A rocket engine that carries its own supply of oxygen.
 - D) A jet engine that uses no oxygen.
3. What is NOT true about the scramjet engine?
 - A) It goes slower than a rocket.
 - B) It extracts oxygen from the air that flows through the engine.
 - C) It works only at speeds greater than five times the speed of sound.
 - D) It doesn't carry its own oxygen supply.
4. What did Werner J. A. Dahm of the University of Michigan say about the Hyper X test flight?
 - A) It indicated the birth of a very fast airplane.
 - B) It was self-powered, so it lasted only 11 seconds.
 - C) It can transport cargo quickly and cheaply to the brink of space
 - D) It is a major milestone in the journey of making a new type of very fast airplanes
5. What has NASA planned to do?
 - A) To make another 11-second hypersonic flight at 10 times the speed of the sound.
 - B) To make three more Hyper X experiments.
 - C) To retest the aircraft that is left.

D) To make the aircraft fly higher and longer.

答案与题解:

1. C Hyper X 之所以打破记录是因为它的飞行速度是音速的 7 倍。它不是第一架空气喷气式飞机，也不是第一架超音速飞机，所以 A 和 D 都不对。Hyper X 的试飞并未绕赤道飞行，所以 B 也是错误的选择。
2. B 第四段讲了三种发动机的氧气来源：喷气式发动机是从空气中汲取氧气，火箭发动机必须自携氧气，而超音速冲压喷气发动机则不必自携氧气，而这正是 Hyper X 使用的发动机装置。
3. A 根据第五段内容，B、C、D 都是正确的说法。第四段最后一句告诉我们，A 的说法是不正确的。
4. D 文章的第六段中，密歇根大学的研究人员 Werner J. A. Dahm 说，Hyper X 的试飞成功只是研制一种新式快速飞机过程中的一个里程碑（a major milestone on the way to a new breed of very fast airplanes），而不是新型飞机的诞生。所以，D 是正确选择，A 是错误选择。B 也不是 Werner J. A. Dahm 想要表达的意思，C 是其它工程师而不是 Werner J. A. Dahm 说的话。
5. A 答案可在最后一段找到。

8.. Explorer of the Extreme Deep (C 级)

(替换 2007 年用书理工类阅读理解第二十篇: Hacking)

Oceans cover more than two-thirds of our planet. Yet, just a small fraction of the underwater world has been explored. Now, Scientists at the Woods Hole¹ Oceanographic Institution (WHOI) in Massachusetts are building an underwater vehicle that will carry explorers as deep as 6,500 meters (21,320 feet). The new machine, known as a manned submersible or human-operated vehicle (HOV), will replace another one named *Alvin*² which has an amazing record of discovery, playing a key role in various important and famous undersea expeditions. *Alvin* has been operating for 40 years but can go down only 4,500 meters (14,784 feet). It's about time for an upgrade, WHOI researchers say.

Alvin was launched in 1964. Since then, *Alvin* has worked between 200 and 250 days a year, says Daniel Fornari, a marine geologist and director of the Deep Ocean Exploration Institute at WHOI. During its lifetime, *Alvin* has carried some 12,000 people on a total of more than 3,000 dives.

A newer, better versions of *Alvin* is bound to reveal even more surprises about a world that is still full of mysteries, Fornari says. It might also make the job of exploration a little easier. "We take so much for granted on land," Fornari says. "We can walk around and see with our eyes how big things are. We can see colors, special arrangements."

Size-wise, the new HOV will be similar to *Alvin*. It'll be about 37 feet long. The setting area inside will be a small sphere, about 8 feet wide, like *Alvin*, it'll carry a pilot and two passengers. It will be just as maneuverable. In most other ways, it will give passengers more opportunities to enjoy the view, for one thing. *Alvin* has only three windows, the new vehicle will have five, with more overlap so that the passengers and the pilot can see the same thing.

Alvin can go up and down at a rate of 30 meters every second, and its maximum speed is 2

knots (about 2.3 miles per hour), while the new vehicle will be able to ascend and descend at 44 meters per second. It'll reach speeds of 3 knots, or 3.5 miles per hour. (361 words)

词汇:

fraction n. 一部分 dive v. & n. 潜水; 跳水
underwater adj. 水下的; adv. 在水下
bound adj. 受约束的, 一定的
manned adj. 载人的
sphere n. 球体; 范围
undersea adj. 海底的
maneuverable adj. 机动的, 可调动的
submersible n. 潜艇; 潜水器
overlap v. & n. 重叠
upgrade n. 升级
ascend v. 上升
geologist n. 地质学家

注释:

1. Woods Hole: 美国马萨诸塞州的一个渔村, 但同时拥有许多重要研究机构, 如: the Marine Biological Laboratory, the Sea Education Association 以及 the Woods Hole Oceanographic Institution。
2. Alvin: 世界上第一个深海潜水器, 它最有名的深海探测包括 1986 年对泰坦尼克号残骸的测量工作。

练习:

1. What is *Alvin*?
 - A) A research institute.
 - B) A transporting vehicle.
 - C) A submersible.
 - D) A scientist.
2. Which of the following statements is NOT a fact about Alvin?
 - A) It can carry explorers as deep as 6,500 meters.
 - B) It has played a key role in various important undersea expeditions
 - C) It was launched in the sixties of the twentieth century.
 - D) It has been used for more than 40 years.
3. "... a world that is still full of mysteries" refers to
 - A) The earth.
 - B) Out space.
 - C) The ocean.
 - D) Mars.
4. In what aspects are the new HOV and Alvin similar?
 - A) Size.
 - B) Speed.
 - C) Capacity.

- D) Shape.
5. In what aspects are the new HOV and Alvin different?
- A) Offering better views.
- B) Speed.
- C) Size.
- D) Both A and B.

答案与题解:

1. C 短文第一段的第二、第三句提供了答案。
2. A 文章第二段的第二句说,科学家正在研制一艘可将研究人员带到6,500米深处的潜水装置,而它将替代 Alvin,因为 Alvin 只能潜到4,500米深处。A 不是事实,所以是正确选择。
3. C 本文讨论探索海底世界的潜水装置,所以“充满神秘色彩的世界”指的就是海洋。
4. D 第四段的头三个句子告诉我们,HOV 和 Alvin 在体积上和容量上相似。所以 D 是正确选择。
5. D 第四段最后两句告诉我们,Alvin 只有三个窗户,而 HOV 有五个。最后一段告诉我们,两艘潜水装置的上下活动速度和行进速度有所差别。所以 D 是正确选择。

9. Plant Gas (C 级)

(替换 2007 年用书理工类阅读理解第二十一篇: The Gene Industry)

Scientists have been studying natural sources of methane for decades but hadn't regarded plants as a producer, notes Frank Keppler, a geochemist at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany¹. Now Keppler and his colleagues find that plants, from grasses to trees, may also be sources of the greenhouse gas. This is really surprising, because most scientists assumed that methane production requires an oxygen-free environment.

Previously, researchers had thought that it was impossible for plants to make significant amounts of the gas. They had assumed that microbes² need to be in environments without oxygen to produce methane. Methane is a greenhouse gas, like carbon dioxide. Gases such as methane and carbon dioxide trap heat in Earth's atmosphere and contribute to global warming.

In its experiments, Keppler's team used sealed chambers that contained the same concentration of oxygen that Earth's atmosphere has. They measured the amounts of methane that were released by both living plants and dried plant material, such as fallen leaves.

With the dried plants, the researchers took measurement at temperatures ranging from 30 degrees Celsius to 70 degrees C. At 30 degrees C, they found, a gram of dried plant material released up to 3 nanograms of methane per hour. (One nanogram is a billionth of a gram.) With every 10-degree rise in temperature, the amount of methane released each hour roughly doubled.

Living plants growing at their normal temperatures released as much as 370 nanograms of methane per gram of plant tissue per hour. Methane emissions tripled when living and dead plant was exposed to sunlight.

Because there was plenty of oxygen available, it's unlikely that the types of bacteria that normally make methane were involved. Experiments on plants that were grown in water rather than soil also resulted in methane emissions. That's another strong sign that the gas came from the

plants and not soil microbes.

The new finding is an “interesting observation,” says Jennifer Y. King, a biogeochemist at the University of Minnesota in St. Paul³. Because some types of soil microbes consume methane, they may prevent plant-produced methane from reaching the atmosphere. Field tests will be needed to assess the plant’s influence, she notes. (367 words)

词汇:

- methane n. 甲烷, 沼气
- emission n. 散发, 发射
- geochemist n. 地球化学家
- triple v. 增加三倍; adj. 三倍的
- Celsius n & adj. 摄氏 (的)
- bacteria n. (bacterium 的复数) 细菌
- microbe n. 微生物
- nanogram n. 微克
- Biogeochemist n. 生物地球化学家
- chamber n. 室, 房间; 腔

注释:

1. the Max Planck Institute for Nuclear Physics in Helderberg, Germany: 马克思·普朗克核物理研究所, 位于德国海德堡。海德堡系德国西南部城市, 在巴登-符腾堡州的内卡河畔。海德堡大学是德国历史最悠久的大学。
2. microbe: 细菌, 意义同 bacterium (bacteria 的单数形式), 但 microbe 不用作专门术语。
3. St. Paul: 圣保罗, 美国明尼苏达州首府。

练习:

1. What was scientists’ understanding of methane?
 - A) It was produced from plants.
 - B) It was not a greenhouse gas.
 - C) It was produced in oxygen-free environments.
 - D) It traps more heat than any other greenhouse gas.
2. To test whether plants are a source of methane, the scientists created
 - A) a oxygen-free environment.
 - B) an environment with the same concentration of oxygen as the Earth has.
 - C) a carbon dioxide-free environment.
 - D) an environment filled with the greenhouse gas
3. Which statement is true of the methane emissions of plants in the experiment?
 - A) The lower the temperature, the higher the amount of methane emissions.
 - B) Living plants release less methane than dried plants at the same temperature.
 - C) When exposed to sunlight, plants stop releasing methane.
 - D) The higher the temperature, the greater the amount of methane emissions.
4. What of the following about methane is Not mentioned in the passage ?
 - A) Plants growing in soil release methane.
 - B) Plants growing in water release methane.

- C) Soil microbes consume methane.
 D) Microbes in plants produce methane.
5. What is the beneficial point of some microbes consuming plant-produced methane?
 A) Methane becomes less poisonous.
 B) methane is turned into a fertilizer.
 C) Less methane reaches the atmosphere.
 D) Air becomes cleaner..

答案与题解:

1. C 短文的第一和第二段都讲到, 科学家过去曾经认为, 沼气必须在无氧的环境中才能产生。注意, 作者用的是过去式: Most scientists assumed that ..., They had assumed that...。
2. B 第三段第一句说, 科学家使用密封的房间来做实验, 房间里氧气的浓度与地球大气中的氧气浓度相仿。所以 B 句符合原文的意思, 其它三个选择则不符合原文内容。
3. D 根据第四和第五段的内容, 只有 D 是正确的说法。温度越高沼气的释放量越高, 有生命的植物释放的沼气远大于干植物的释放量, 在阳光下, 它们的沼气释放量是正常情况的三倍。
4. D 最后两段告诉我们, 无论在土壤中还是在水中生长的植物都能释放沼气, 土壤中的微生物消耗沼气, 使沼气不至于进入空气。所以 A、B、C 的内容均符合短文最后两段中作者的意思。D 的内容短文中没有提到。
5. C 最后一段的第二句可以找到本题的答案。

10. Smart Window (B 级)

(替换 2007 年用书理工类阅读理解第三十三篇: Star Quality)

Windows not only let light in to cut down an electricity use for lighting, but the light coming through the window also provides heat. However, windows are not something people typically associate with being a cutting edge¹ technology. Researchers are now working on new technologies that enable a window to quickly change from clear to dark and anywhere in between with a flip of a switch².

“It took us a long time to figure out what a window really is,” says Claes Granqvist. He’s a professor of solid-state physics at Uppsala University in Sweden³. “It’s contact with the outside world. You have to have visual contact with the surrounding world to feel well.” So, windows and natural light are important for improving the way people feel when they’re stuck indoors.

Yet, windows are the weak link in a building when it comes to energy and temperature control. In the winter, cold air leaks in. When it’s hot and sunny, sunlight streams in. All of this sunlight carries lots of heat and energy. And all of this extra heat forces people to turn on their air conditioners. Producing blasts of cold air, which can feel so refreshing, actually suck up enormous amounts of electricity in buildings around the world.

Windows have been a major focus of energy research for a long time. Over the years, scientists have come up with a variety of strategies for coating, glazing, and layering windows to make them more energy efficient. Smart windows go a step further. They use chromogenic technologies which involve changes of color.

Electrochromic windows use electricity to change color. For example, a sheet of glass coated with thin layers of chemical compound such as tungsten oxide works a bit like a battery. Tungsten oxide is clear when an electric charge is applied and dark when the charge is removed, that is, when the amount of voltage is decreased, the window darkens until it's completely dark after all electricity is taken away. So applying a voltage determines whether the window looks clear or dark.

One important feature that makes a smart window so smart is that it has a sort of "memory." All it takes is a small jolt of voltage to turn the window from one state to the other. Then, it stays that way. Transitions take anywhere from 10 seconds to a few minutes, depending on the size of the window. The development of smart windows could mean that massive air conditioning systems may no longer need. "In the future," Granqvist says, "our buildings may look different."

词汇:

- flip n. & v. 用手指轻弹, 轻击
- tungsten oxide 氧化钨
- air conditioner 空调 (器)
- jolt n. & v. 震撼, 颠簸, 晃动
- refreshing adj. 使人清爽的
- electrochromic adj. 电致变色的
- glaze v. 装玻璃, 用玻璃覆盖
- voltage n. 电压
- chromogenic adj. 发色的
- air conditioning 空调, 空调系统

注释:

1. cutting edge: 本意为: (刀片的)刃口, 刀刃; 比喻意为: 最先进的, 科技含量最高的。
2. anywhere in between with a flip of a switch: 就在开或关的一霎那。
3. Uppsala University in Sweden: 瑞典的乌普萨拉大学。乌普萨拉是瑞典东部一座城市, 位于斯德哥尔摩的西北方向。

练习:

1. Which of the following statements does not indicate the importance of windows as described in the first two paragraphs?
 - A) Windows can change from clear to dark to save energy.
 - B) Windows help to save energy by letting light in.
 - C) Windows help to save energy by providing heat.
 - D) Windows enable people to have contact with the outside world.
2. When are windows the weak link in a building?
 - A) In the cold winter.
 - B) In the hot summer.
 - C) When air conditioners are turned on.
 - D) Both A and B.
3. What are smart windows, according to Paragraph 4?
 - A) Windows that are coated.

- B) Windows that are glazed.
 C) Windows the color of which can be changed.
 D) Windows that have many layers.
4. To make electrochromic windows change color, what is applied to the window glass?
 A) Electricity.
 B) Tungsten oxide.
 C) A battery.
 D) A voltage.
5. What will be the benefit if the research on smart windows turns out to be successful, according to the last paragraph?
 A) The buildings will look different.
 B) Windows can be as large as you want.
 C) We may not need air conditioners any more.
 D) They are less expensive than traditional windows.

答案与题解:

1. A 第一段告诉我们窗户因为让阳光进入房间,并且为房间提供热源,所以节约了能源。第二段说,窗户使人们能接触外部世界。所以 B、C 和 D 都说明了窗户的重要性。第一段最后一句说,研究者正在实验能让窗户变换亮度,但并没有说已经实验成功,所以 A 是错误的说法,是正确选择。
2. D 短文第三段的第一句说: windows are the weak link in a building, 接下来是对这句话分寒冬和炎夏做了说明。所以 D 是正确选择。
3. C 第四段告诉我们,多年来,科学家已研究出多种通过窗户节能的办法,而 smart windows 使用的技术使窗户能变换颜色。所以 C 是正确选择。
4. B 第五段第二句提供了答案。a sheet of glass coated with thin layers of chemical compound such as tungsten oxide 中的 coated 是“涂上一层薄薄的...”的意思。
5. C 短文最后一段的第五句提供了答案。

11. Where Have All the Bees Gone? (B 级)

(替换 2007 年用书理工类阅读理解第三十五篇: Single-parent Kids Do Best)

Scientists who study insects have a real mystery on their hands. All across the country, honeybees are leaving their hives and never returning. Researchers call this phenomenon colony-collapse¹ disorder. According to surveys of beekeepers across the country, 25 to 40 percent of the honeybees in the United States have vanished from their hives since last fall. So far, no one can explain why.

Colony collapse is a serious concern because bees play an important role in the production of about one-third of the foods we eat. As they feed, honeybees spread pollen from flower to flower. Without this process, a plant can't produce seeds or fruits.

Now, a group of scientists and beekeepers have teamed up to try to figure out what's causing the alarming collapse of so many colonies. By sharing their expertise in honeybee behavior, health,

and nutrition, team members hope to find out what's contributing to the decline and to prevent bee disappearances in the future.

It could be that disease is causing the disappearance of the bees. To explore that possibility, Jay Evans, a researcher at the United States Department of Agriculture (USDA) Bee Research Laboratory², examines bees taken from colonies that are collapsing. "We know what a healthy bee should look like on the inside, and we can look for physical signs of disease," he says. And bees from collapsing colonies don't look very healthy. "Their stomachs are worn down, compared to the stomachs of healthy bees," Evans says. It may be that a parasite is damaging the bees' digestive organs. Their immune systems may not be working as they should. Moreover, they have high levels of bacteria inside their bodies.

Another cause of colony-collapse disorder may be certain chemicals that farmers apply to kill unwanted insects on crops, says Jerry Hayes, chief bee inspector for the Florida Department of Agriculture³. Some studies, he says, suggest that a certain type of insecticide affects the honeybee's nervous system (which includes the brain) and memory. "It seems like honeybees are going out and getting confused about where to go and what to do," he says.

If it turns out that a disease is contributing to colony collapse, bees' genes could explain why some colonies have collapsed and others have not. In any group of bees there are many different kinds of genes. The more different genes a group has, the higher the group's genetic diversity. So far scientists haven't determined the role of genetic diversity in colony collapse, but it's a promising theory, says Evans.

词汇:

- honeybee n. 蜜蜂
- parasite n. 寄生虫; 寄生生物
- hive n. 蜂巢; 蜂箱
- digestive adj. 消化的
- pollen n. 花粉
- immune adj. 免疫的
- beekeeper n. 养蜂人
- insecticide n. 杀虫剂
- expertise n. 专门知识, 专长
- diversity n. 多样性

注释:

1. colony-collapse: 群体瘫痪。Colony 有“殖民地”的意思, 在此意为: a group of the same kind of animals, plants, or one-celled organisms living or growing together. 一群生活或生长在一起的同种动物、植物或单细胞有机体。
2. the United States Department of Agriculture (USDA) Bee Research Laboratory: 美国农业部蜜蜂研究实验室。
3. the Florida Department of Agriculture: 佛罗里达农业局。佛罗里达是美国东南部的一个州, 濒临大西洋和墨西哥湾。

练习:

1. What is the mystery that researchers find hard to explain?

- A) Honeybees are flying all across the country.
 B) 25-40 percent of the honeybees in the US have died.
 C) Honeybees are leaving their hives and do not return.
 D) Honeybee hives are in disorder.
2. Why are researchers seriously concerned with the phenomenon of colony-collapse disorder?
 A) Because honeybees produce one-third of the foods we eat
 B) Because honeybees feed on flowers.
 C) Because honeybees eat seeds of flowers.
 D) Both B and C.
3. What are the possible causes of colony-collapse disorder given by the scientists?
 A) Worsening environment.
 B) Disease and chemicals.
 C) Dwindling number of flowers around.
 D) Changes in genes' structures.
4. According to the fifth paragraph, which of the following about bees' genes is true?
 A) Bees' genes allow them to expand their colonies.
 B) Bees genes help keep them in their hives.
 C) Bees genes make them fly from flower to flower.
 D) Bees genes could explain the collapse of some colonies.
5. What explanation is given by Jerry Hayes to the phenomenon?
 A) Farmers apply certain chemicals to kill unwanted bees.
 B) The insecticide destroys the honeybee's nervous system.
 C) The insecticide affects the honeybee's memory.
 D) All of the above.

答案与题解:

1. C 短文第一段的第一句和最后一句告诉我们,昆虫学家正面临一个不可解释的谜。第二句解释了这个谜,给出了答案。
2. A 短文第二段的第一句提供了答案。蜜蜂传播花粉能使植物结果,因此为人类提供食物。
3. B 第四的开头是 It could be that disease is causing the disappearance of the bees. 第五段的开头是 Another cause of colony-collapse disorder may be certain chemicals that ..., 这是科学家给出的两个可能造成这种现象的原因。
4. D 第五段的句子: bees' genes could explain why some colonies have collapsed and others have not. 这是选择 D 的依据。选项 A、B、C 的内容文章中都没有出现,所以不是答案。
5. D 第五段描述了另一个可能的原因,即,农夫使用的杀虫剂可能破坏了蜜蜂的神经系统和记忆。所以 D 是正确选择。

13. 'Hidden' Species May Be Surprisingly Common (A 级)

(替换 2007 年用书理工类阅读理解第四十八篇: Shrinking Water Supply Poses Threat to Peace)

Cryptic species – animals that appear identical but are genetically quite distant – may be much more widespread than previously thought. The findings could have major implications in areas ranging from biodiversity estimates and wildlife management, to our understanding of infectious diseases and evolution.

Reports of cryptic species have increased dramatically over the past two decades with the advent of relatively inexpensive DNA sequencing technology. Markus Pfenninger and Klaus Schwenk, of the Goethe-Universität in Frankfurt¹, Germany, analyzed all known data on cryptic animal species and discovered that they are found in equal proportions throughout all major branches of the animal kingdom and occur in equal numbers in all biogeographical regions.

Scientists had previously speculated that cryptic species were predominantly found in insects and reptiles, and were more likely to occur in tropical rather than temperate regions. “Species that are seemingly widespread and abundant could in reality be many different cryptic species that have low populations and are highly endangered,” says Pfenninger. Until the genetic information of all species in at least one taxon is thoroughly studied, no one will know just how many cryptic species exist. “It could be as high as 30%,” Pfenninger says.

“I’m extremely surprised by their results,” says Alex Smith of the University of Guelph² in Ontario³, Canada. “It’s a call to arms to keep doing the broad kind of genetic studies that we are doing.”

Sampling as many individuals as possible, scientists hope to complete work on all fish and birds in another 5 to 10 years. Once either of these taxonomic groups is completed, Pfenninger says researchers will be able to decide how many cryptic species exist throughout the animal kingdom.

Examples of cryptic species include the African elephant. A 2001 study found the elephants were actually two genetically distinct, non-interbreeding species, the African bush elephant and the African elephant. The species are currently listed as vulnerable and threatened, respectively, by the World Conservation Union (WCU)⁴.

The reclassifications are more than an academic exercise. They define populations that have evolved independently of each other and whose genetic differences can have significant consequences.

In the early 1900s misidentification of mosquito species based on morphology confused attempts to control malaria in Europe. Ultimately, what was thought to be a single species was actually made up of six sibling species, only three of which transmitted the disease. “The basic unit in biology is always the species, and you have to know what you are dealing with,” Pfenninger says. Much previous research is now no longer used, he says, because it is not clear what species was being studied. (428 words)

词汇:

- cryptic adj. 隐蔽的; 隐藏的
- taxon n. (生物的) 分类单元
- biodiversity n. 生物多样性
- taxonomic adj. 分类(学)的
- DNA n. 脱氧核糖核酸 (deoxyribonucleic acid 的缩写)
- non-interbreeding adj. 非杂交繁殖
- biogeographical adj. 生物地理学的

morphology n. 形态学
malaria n. 疟疾
reptile n. 爬行动物
sibling n. 同胞, 同属
temperate adj. (气候) 温带的

注释:

1. the Goethe-Universität in Frankfurt: 德国法兰克福大学, 即 Johann Wolfgang Goethe-Universität Frankfurt am Main, 位于美因和莱茵两河汇流处的法兰克福。
2. the University of Guelph: 圭尔夫大学。该校成立于 1964 年, 是一所公立的综合性大学。在 2005 年加拿大综合类大学评比中, 圭尔夫大学名列第 3 名, 是全加拿大最著名的高等学府之一。
3. Ontario: 安大略。加拿大中东部的一个省。
4. the World Conservation Union: 世界自然保护联盟。全球最大、最重要的自然保护网络机构, 它集合了 82 个国家、111 个政府机构、800 多个非政府组织以及来自 181 个国家的约 1 万多名科学家和专家, 形成了世界环保领域里独一无二的全球性合作关系。

练习:

1. Which of the following about the significance of the research on cryptic species is NOT true?
A) The results of the research can help the development of many other research areas.
B) The results of the research can help the development of biodiversity estimates.
C) The results of the research can help our understanding of infectious disease evolution.
D) The results of the research can help our understanding of “survival of the fittest.”
2. What was scientists' understanding of cryptic species?
A) They occurred in equal numbers in all biogeographical regions.
B) They were mostly found in insects and reptiles.
C) They were likely to be in tropical rather than temperate regions.
D) Both B and C.
3. Do scientists know how many cryptic species exist?
A) Not yet.
B) Yes, they do.
C) They will know the answer in another one or two years.
D) They will never know the answer.
4. Which of the following about the African bush elephant and the African elephant is true?
A) The WCU are interbreeding those elephants.
B) They are interbreeding species.
C) They are two genetically distant species.
D) They depend on each other for survival.
5. People were confused in their attempts to control malaria in Europe in the early 1900s, because scientists
A) identified only one mosquito species instead of six species.
B) thought only three mosquito species transmitted disease.
C) thought there was only one mosquito species.
D) did not know what species was being studied.

答案与题解:

1. D 短文的第一段第二句的大意是, 研究结果为广泛的研究领域提供启示, 包括生物多样性研究, 还能帮助我们理解传染疾病及其演变。所以, 选项 A、B、C 都是正确的, 它们不是答案。选项 D 的“适者生存”的内容文章中并没有提及, 因此是本题的答案。
2. D 短文的第二段第二句描述的是科学家目前的研究结果, 第三段描述的是科学家在这之前对于 cryptic species 的理解。本题用的是过去式, 问的是过去的状况, 因此, 答案在第三段中, B 和 C 是答案, 所以 D 是正确选择。
3. A 第三段和第五段提供了答案。第三段的最后一句中的 Until ..., no one will know just how many cryptic species exist. 其意思就是人们目前还不了解。第五段的最后一句也说明了研究者目前对此尚未了解。
4. C 答案在第六段中。该段举了非洲大象为例, 说明什么是 cryptic species。第六段的句子 “A 2001 study found the elephants were actually two genetically distinct, non-interbreeding species” 是选择 C 的依据。选项 A 不对, the WCU 并没有杂交繁殖这两种象。选项 B 不对, 短文说这两种象是非杂交物种。选项 D 的内容短文中找不到。
5. A 短文最后一段告诉我们, 由于对蚊子种类不了解, 20 世纪初期疟疾曾肆虐欧洲, 最终, 科学家才了解到蚊子这一物种不是由一个种类而是由六个种类组成。所以, 应该选择 A。

14. Why Humans Walk On Two Legs (A 级)

(替换 2007 年用书理工类阅读理解第四十九篇: **Retinal Prosthesis Helps the Blind Regain Eyesight**)

A team of scientists that studied chimpanzees trained to use treadmills has gathered new evidence suggesting that our earliest apelike ancestors started walking on two legs because it required less energy than getting around on all fours.

"When our earliest ancestors started walking on two legs, they took the first steps toward becoming human," said lead researcher Michael Sockol of UC Davis¹. "Our findings help answer why." Sockol worked for two years to find an animal trainer willing to coax adult chimps to walk on two legs and to "knucklewalk" on all fours on the sort of treadmill found in most gyms.

The five chimps also wore face masks used to help the researchers measure oxygen consumption. While the chimps worked out, the scientists collected metabolic and other data that allowed them to calculate which method of locomotion used less energy and why. The team gathered the same information for four adult humans walking on a treadmill.

The researchers found that human walking used about 75 percent less energy and burned 75 percent fewer calories than quadrupedal and bipedal² walking in chimpanzees. They also found that for some but not all of the chimps, walking on two legs was no more costly than knucklewalking.

"We were prepared to find that all of the chimps used more energy walking on two legs - but that finding wouldn't have been as interesting," Sockol said. "What we found was much more

telling. For three chimps, bipedalism³ was more expensive, but for the other two chimps, this wasn't the case. One spent about the same energy walking on two legs as on four. The other used less energy walking upright." These two chimps had different gaits and anatomy than their knucklewalking peers.

Taken together, the findings provide support for the hypothesis that anatomical differences affecting gait existed among our earliest apelike ancestors, and that these differences provided the genetic variation which natural selection could act on when changes in the environment gave bipeds an advantage over quadrupeds.

Fossil and molecular evidence suggests the earliest ancestors of the human family lived in forested areas in equatorial Africa in the late Miocene era some 8 to 10 million years ago, when changes in climate may have increased in distance between food patches. That would have forced our earliest ancestors to travel longer distances on the ground and favored those who could cover more ground using less energy.

"This isn't the complete answer," Sockol said. "But it's a good piece of a puzzle humans have always wondered about: How and why did we become human? And why do we alone walk on two legs?" (435 words)

词汇:

chimpanzee n. 黑猩猩 (又作 chimp)

calorie n. 卡 (路里), 小卡

biped n. 二足动物

treadmill n. 踏轮; 踏车; 单调工作

gait n. 步态, 步法

coax v. 哄, 哄劝

anatomic adj. 解剖 (学) 的

knucklewalk v. 用膝关节走路

quadruped n. 四足动物

metabolic adj. (新陈) 代谢的

Miocene n.& adj. 中新世 (的)

locomotion n. 运动 (力)

注释:

1. UC Davis : 加州大学戴维斯分校。UC 是 University of California (加利福尼亚大学) 的缩写, 该校有多个分校, UC Davis 是其中一个。Davis 以前是 UC Berkeley 分校的农学院, 后来独立出来。Davis 是一个大学城, 很小的城市, Davis 校园基本就构成了这个城市。
2. quadrupedal and bipedal: quad-: 构词词素, 是"四"的意思; bi-: 构词词素, 是"二"的意思; ped-: 构词词素, 是"脚"的意思; -al 是构成形容词的后缀, 表示"... 的"。因此, quadrupedal 意为"四足动物的", bipedal 意为"二足动物的"。
3. bipedalism: 系 bipedal (二足动物的) 的对应名词, 这里后缀 -ism 表示"特征"、"特性"。

练习:

1. What did Michael Sockol and his team find out in their study of chimpanzees?
 - A) The evidence why chimpanzees can be trained to use treadmills.
 - B) The evidence why our apelike ancestors came to walk on four legs.

- C) The evidence why our apelike ancestors came to walk on two legs.
 D) The evidence why chimpanzees can be trained to walk on two legs.
2. Which of the following best interprets the meaning of "While the chimps worked out," (the first sentence of the third paragraph)?
 A) While the chimps worked in the lab....
 B) While the chimps exercised in the gym....
 C) While the chimps tried to figure out what they should do....-
 D) While the chimps tried to understand the instructions....
3. What was the result of the finding, according to Paragraph 5?
 A) Three chimps used more energy walking on two legs.
 B) One chimp used less energy walking on two legs.
 C) One chimp used about the same energy walking on two legs as on four.
 D) All of the above.
4. What was true of the hypothesis of the research?
 A) Our apelike ancestors were anatomically different but had the same gaits.
 B) Bipedes with natural selection had an advantage over quadrupeds.
 C) Our apelike ancestors could adapt to different climate changes due to genetic variation.
 D) Bipedes had an advantage over quadrupeds due to changes in the environment.
5. What does fossil and molecular evidence tell us about our earliest ancestors.
 A) They experienced more climate changes than we do today.
 B) Due to changes in climate, they were forced to travel between food patches.
 C) They could cover more ground than their quadrupedal peers because they used less energy.
 D) They could travel longer distances on the ground than those who could use less energy.

答案与题解:

1. C 短文的第一段直接回答了这个问题。
2. B worked out 在此是"运动, 锻炼"的意思, 所以选择 B。
3. D 第五段的第三、第四和第五句提供了答案。bipedalism was more expensive 的意思是: 两足行走消耗更多的体能。walking upright 的意思是: 直立行走, 即两足行走。
4. B 第六段告诉了我们研究的两个假设: 猿人祖先在解剖学意义上存在着差异, 这一差异影响了它们的步态; 这些差异在自然选择的过程中决定了遗传变异, 而环境变化使得两足行走的猿人比起四足行走的猿人更有优势。A、C、D 都不是正确的说法, 只有 B 在该段中被提到。
5. C 倒数第二段提供了问题的答案。travel longer distances 用的是比较级, 这里是将两足行走的猿人与上文中四足行走的猿人做比较。those who could cover more ground using less energy 指的是上文提到的与四足行走的猿人相比, 体能消耗较小的两足行走猿人。其他选择都不是正确说法。

第五部分 补全短文

(三篇)

第七篇

Time in the Animal World

Rhythm controls everything in Nature. 1.

The sun provides a basic time rhythm for all living creatures including humans. Nearly all animals are influenced by sun cycles and have developed a biological clock in their bodies following these cycles. The moon also exerts its force and influence on the sea. Its gravitational attraction causes the rising of the tide. 2. When the moon is behind the Earth, centrifugal force causes the second tide of the day.

Animals living in tidal areas must have the instinct of predicting these changes, to avoid being stranded and dying of dehydration. Since the time of the dinosaurs, the king crab has been laying eggs¹ at the seaside in a set way². To avoid predator fish³, the eggs are always far from seawater and protected by sand. In the following two months, the eggs undergo dramatic changes related to the cycles of the moon⁴. When the second spring tide comes, the young king crabs have matured. 3.

Most of the mammals, either the giant elephant or the small shrew, have the same average total number of heartbeat in their lifetime. Shrews live only for two and a half years, and spend their life at a high speed and high tempo. Animals like shrews with a pulse rate of 600 per minute have an average total of eight hundred million heartbeats⁵ throughout their life. The African elephant has a pulse rate of 25 beats per minute, and a life span⁶ of 60 years. The size of the body determines the speed of life. 4.

As we get older, our sense of time is being influenced by the physiological changes of our body. The elderly spend more time resting, and do few sports. 5. For a child, a week is seen as a long time.

词汇:

rhythm n. 节奏
king crab n. 鲎
slap v. 拍击
predator n. 食肉动物
exert v. 施加
shrew n. 鼯鼠
gravitational adj. 重力作用的
tempo n. 节奏, 速度
centrifugal adj. 离心力的
pulse n. 脉搏
strand v. 使搁浅
span n. 跨度
dehydration n. 脱水
physiological adj. 生理的
dinosaur n. 恐龙

注释:

1. laying eggs: 产卵
2. in a set way: 以一种固有的方式
3. predator fish: 食肉鱼

4. undergo dramatic changes related to the cycles of the moon: 经受与月亮周期有关的巨大变化。related to the cycles of the moon 是过去分词短语，作后置定语，修饰 changes.
5. eight hundred million heartbeats: 8 亿次心跳
6. life span: 一生

练习:

- A. For an adult, time goes fast year by year.
- B. It controls, for example, the flapping of birds' wings, the beating of the heart and the rising and setting of the sun.
- C. The larger the animal is, the longer its life span is and the slower its life tempo is.
- D. The tide goes out when the moon moves away and its attraction is weaker.
- E. We always tend to think all the animals have the same sense of time as human beings.
- F. The second spring tide takes them back to the sea.

答案与题解:

1. B "空 1" 前面的句子 "Rhythm controls everything in Nature" 是主题句。"空 1" 的句子应该是陈述主题句的细节。选项 B 的 "It controls, for example, the flapping of birds' wings, the beating of the heart and the rising and setting of the sun" 是主题句的例解。controls 是两个句子的词汇连接手段，两个句子的内容也连贯。所以，B 答案。
2. D "空 2" 前面两句说，月亮对大海施加力量 and 影响，其地心吸力造成涨潮。"空 2" 后的句子涉及第二次涨潮。可以推断，位于这两个句子之间的 "空 2" 的内容应该与大海和潮汐有关。选项 D 说的是退潮。因此是答案。
3. F 第三段说到生长在潮汐地区的动物具有预测潮汐的本能。然后举 King crab 为例。蟹远离海岸产卵，并将之埋在沙下，防止食肉鱼吞食。到第二次春潮来临时，小蟹已破壳而出。"空 3" 应该填什么呢？选项 F 出现 second spring，这是与上一句联系的信号。再看内容，它是上一句意思的自然发展。F 是答案。
4. C 第四段说到哺乳动物不管寿命长短、体形大小，其一生心跳总次数大致相同。作者举体形大、寿命长的大象和体形小、寿命短的 shrew (鼯鼠) 为例说明之。本段的倒数第二句是结论：The size of the body determines the speed of life. "空 4" 应该填什么呢？估计应该与上述结论有关。选项 C 的 "The larger the animal is, the longer its life span is and the slower its life tempo is" 是对上一句的结论的细化说明。C 是答案。
5. A 第五段说到随着年龄的增长，生理变化会影响人的时间感。"空 5" 前面一句说到老人，"空 5" 后面一句说到小孩。可以判断，"空 5" 的内容会涉及另一个年龄段。选项 E 说了一个成年段。A 是答案。

第十一篇

Virtual Driver

Driving involves sharp eyes and keen ears, analyzing with a brain, and coordination between hands, feet and brain. A man has sharp eyes and keen ears, analyzes through his brain, and maintains coordination between his hands and brains. He can control a fast-moving car with different parts of his body. 1. Apparently there isn't anyone in the driver's cab, but there is

in fact a virtual driver¹. This virtual driver has eyes, brains, hands and feet too. The minicameras on each side of the car are its eyes and are responsible for observing the road conditions ahead of it as well as the traffic to its left and right. If you open the boot, you can see the most important part of the automatic driving system: a built-in computer. ___2___. The brain is responsible for calculating the speeds objects surrounding the car are moving at², analyzing their position on the road, choosing the right path, and giving orders to the wheel and the control system.

In comparison with the human brain, the virtual driver's best advantage is that it reacts quickly. ___3___. However, it takes the world's best racecar driver at least one second to react, and this doesn't include the time he needs to take action.

With its rapid reaction and accurate control, the virtual driver can reduce the accident rate on expressways considerably. In this case, is it possible for us to let it have the wheel³ at any time and in any place? ___4___. With its limited ability to recognize things, the car can now only travel on expressways.

The intelligent car determines its direction by the clear lines that mark the lanes clearly and recognizes vehicles according to their regular shapes. ___5___. This being the case⁴, people still have high hopes about driverless cars, and think highly intelligent cars are what the cars of the future should be like⁵.

词汇:

virtual adj. 虚拟的
 built-in adj. 嵌入的
 coordination n. 协调, 配合
 racecar n. 赛车
 cab n. 驾驶室
 expressway n. 高速公路
 minicamera n. 小型照相机
 driverless adj. 无驾驶员的
 boot n. (车身后部的) 行李箱

注释:

1. virtual driver: 虚拟驾驶员
2. The brain is responsible for calculating the speeds objects surrounding the car are moving at: 大脑负责计算汽车周围物体移动的速度。 The brain is responsible for calculating the speeds objects surrounding the car are moving at = The brain is responsible for calculating the speeds at which objects surrounding the car are moving
3. have the wheel: 驾驶汽车
4. This being the case: 虽然情况是这样。 This being the case 是独立分词短语。
5. highly intelligent cars are what the cars of the future should be like: 未来的汽车就应该是高度智能化的汽车

练习:

- A. Experts say that we cannot do that just yet.
- B. In the near future, intelligent cars will be put into commercial operation.
- C. This is the brain of the car.
- D. But how does an intelligent car control itself?
- E. It completes the processing of the images sent by the cameras within 100 milliseconds.
- F. However, it cannot recognize moving people and bicycles on ordinary roads that have no clear markings on them.

答案与题解:

1. D “空 1”前面三个句子讲的是真人驾驶员驾驶汽车时脑、眼、耳、手、脚并用，而且要协调配合。“空 1”之后话题转入虚拟驾驶员。“空 1”之后的第一句“Apparently there isn't anyone in the driver's cab……”似来得有些突然。与前面句子接得很生硬。中间应该有个过渡句。选项 C 就是连接上下文的过渡句。
2. C “空 2”前面一句说，如果你打开车身后部的行李箱，你就能看到自动驾驶系统的最重要的部件，嵌入式电脑。“空 2”后的句子中的 the brain of the car 自然是指前句的 built-in computer，但接得太突然。选项 C 的“This is the brain of the car”就把前后句子联系起来。this 指代上一句的 built-in computer。后面句子的 The brain of the car 是重复选项 C 中的 The brain of the car，显得很自然。所以，C 是答案。
3. E “空 3”前面一句说，虚拟驾驶员最大的优点是反应快。“空 3”后面一句说，最好的赛车手至少要 1 秒钟才能作出反应。“至少要 1 秒钟”已经暗示，虚拟驾驶员反应速度要比真人驾驶员快。一找，选项 E 果然说，虚拟驾驶员只需 100 毫秒就能作出反应。选项 E 使上下文的意思完整，因此是答案。
4. A “空 4”前面是一句问句，即“在这种情况下，是不是可以不分时间、不分地点都让虚拟驾驶员驾驶汽车？”“空 4”的句子应该回答这个问题：“让还是不让？”选项 A 回答了这个问题，因此是答案。
5. F “空 5”前面一句说，“The intelligent car determines its direction by the clear lines that mark the lanes clearly and recognizes vehicles according to their regular shapes.（智能汽车按清晰标出的车道线决定自己的行车方向，靠车辆的常规形状识别其它车辆。）选项 F 的内容正好相反。上一句说“recognizes”，还有“mark the lanes clearly”，而 F 说“cannot recognize”，又说“no clear markings”。从意思表达上和词汇重复上，都能判断出，F 的句子应该出现在“空 5”的位置上。

第十五篇**The Arctic Ice is Thawing**

Father Christmas may have to move his “workshop¹” from the North Pole because global warming is thawing the ice beneath his feet and his reindeers' feet as well. His “workshop” is in dire straits. The “platform” for the “workshop” is melting, said Stefan Norris of the World Wildlife Fund environmental group's Arctic Program.

An eight-nation report by 250 scientists published recently predicted the Arctic Ocean could be ice-free in summer by 2100 because of a build-up of heat-trapping gases² in the atmosphere, mainly from burning fossil fuels in cars or factories. The North Pole is getting more and more inhabitable to Father Christmas. 1. Young people learn that Father Christmas' “workshop” produces millions of gifts delivered by him on a flying, reindeer-drawn sleigh. Hollywood movies like “The Polar Express³” tried to make viewers believe that Father Christmas lives at the North Pole. 2.

The “Fortress of Solitude” is near the North Pole that could be under threat in a warmer world⁵. Alan Boldt, spokesman of the Danish Ministry of Science, suggested ways to rescue Father Christmas. 3. Another alternative, he argued, would be building some electrical facilities to ensure the ice stays on the North Pole for him. “This should be a subject for the United Nations,” he said. “Denmark could build windmills to provide Father Christmas with power.” Denmark says Father Christmas's real home is Greenland, which will help, Denmark thinks, to strengthen its position in claiming the sovereignty over the Pole. 4.

"Doesn't he already speak Danish?" Boldt said frostily when asked if Father Christmas would be forced to learn Danish if Denmark won international recognition of its claim to the Pole. Last month's Arctic report said the region is warming twice as fast as the rest of the globe, partly because dark ground or water, once uncovered, soaks up more heat than ice or snow. Finland has been most favored by Father Christmas and it has about 500,000 tourists a year to visit its Christmas center in Rovaniemi in Lapland⁶. 5 .

词汇:

thaw v. 融化, 解冻
 Nordic adj. 北欧的
 reindeer n. 驯鹿
 rink n. (溜冰) 场
 dire adj. 可怕的
 Danish adj. 丹麦的
 build-up n. 增强, 聚集
 Danmark n. 丹麦

sleigh n. 雪橇
 sovereignty n. 主权
 Hollywood n. 好莱坞
 frostily adv. 冷漠地
 Greenland n. 格陵兰

注释:

1. **workshop:** 工场。圣诞故事说, 圣诞老人每年圣诞节向全世界儿童赠送礼物。礼物数量何止千千万万。于是, 人们想象, 圣诞老人住在北极, 在冰块上一定拥有一个制造礼物的工场。
2. **heat-trapping gases:** 捕捉热量的气体。 **heat-trapping gases = greenhouse gases**
3. **The Polar Express:** 极地快车 (好莱坞电影名)
4. **Nordic countries:** 北欧国家。北欧国家包括芬兰、瑞典、挪威、丹麦、冰岛等五国。
5. **The "Fortress of Solitude" near the North Pole that could be under threat in a warmer world:** "孤独要塞"靠近北极, 在变暖的世界中可能处于危险之中。**that** 引导的定语从句修饰 **Fortress of Solitude**.
6. **Rovaniemi in Lapland:** 位于拉普兰地区的 **Rovaniemi** (罗瓦涅米)。**Rovaniemi** 是芬兰拉普兰省首府, 是一个充满北极风光的城市。市内有圣诞公园 (**Christmas Park**)。每年圣诞节, 热闹非凡。**Rovaniemi** 被称为圣诞之都。

练习:

- A. However, Nordic nations all reject it by claiming that their countries are his home.
- B. Therefore the North Pole is the most attractive place in the world.
- C. If Denmark's claim were accepted internationally, it would have the legal right to search for oil and gas at the North Pole.
- D. One of them would be building a giant floating ice rink for the workshop if the Pole thaws.
- E. Maybe Father Christmas has already moved to Rovaniemi.
- F. He may have to move from the North Pole within our children's lifetimes.

答案与题解:

1. F “空 1”前面两个句子讲的是, 受全球气候变暖的影响, 北极的冰正在融化, 估计到 2100 年夏天北极将成为无冰的世界。北极越来越不适合圣诞老人居住了。于是, 读者或许会猜想, 在这种情况下, 圣诞老人该怎么办呢? 选项 F 说, “He may have to move from the North Pole within our children’s lifetimes”, 其意思与上文配合得天衣无缝, 北极住不下去了, 只能移居他处。因此 F 是答案。
2. A “空 2”前面一句说, 好莱坞电影“极地快车”想让观众相信圣诞老人的故乡在北极。下面该填什么呢? 选项 A 说, “However, Nordic nations all reject it by claiming that their countries are his home”, 北欧国家不同意这种说法, 都声称自己的国家才是圣诞老人的故乡。意思和上文配得上, 但意思正好相反。所以, “空 2”句子的句首用 however 与前一句接起来。A 是答案。
3. D “空 3”前面一句说, 丹麦科学部发言人提出拯救圣诞老人的几个办法。“空 3”的内容应该涉及具体的拯救办法。选项 D 符合这个要求。D 说其中一个办法是: 如果北极的冰融化, 就人工造个浮冰场地, 上面可以承载圣诞老人的工场。从上下文意思的连接上, 从 one of them (指代前一句的 ways) 的用词上, 都可以确定, D 是答案。
4. C 选项 C 的句子一开始就用 “Denmark’s claim”重复“空 4”前面一句的 “claiming (to the sovereignty over the Pole)”, 从词汇重复上, 我们可以判断, 填入“空 4”的句子应该是 选项 C 的句子。我们再从意思上分析一下。丹麦认为, 说圣诞老人的故乡是格陵兰有助于加强丹麦声称自己拥有北极的主权的地位。选项 C 说, 如果丹麦的这一要求得到国际社会认可的话, 它就拥有合法的权利去勘测北极的石油和天然气。上下文意思是连贯的, 所以 C 是答案。
5. E “空 5”前面一句说, “Finland has been most favored by Father Christmas and it has about 500,000 tourists a year to visit its Christmas center in Rovaniemi in Lapland”. 当看到 选项 E 中重复出现 Rovaniemi, 就知道 “空 5”的位置上应该是选项 E 的句子。圣诞老人如此眷顾 Rovaniemi, 每年约有 50 万游客来参观 Rovaniemi 的圣诞中心。E 的句子说 “Maybe Father Christmas has already moved to Rovaniemi (说不定圣诞老人已经移居罗瓦涅米了)”, 是对前一句 “眷顾”的颇有风趣的总结, 也是对与“空 1”的句子 “He may have to move from the North Pole within our children’s lifetimes” 遥相呼应。选项 E 是本题的答案。

第六部分 完形填空

(两篇)

第二篇**Biological Identification Technologies**

When a person walks, the movement of his head, trunk, hipbones and limbs are all reflected in changes in his body. A computer 1 these changes into a database. Later, the computers can 2 identify him according to these changes. This is a new biological identification method and it can quickly identify an examinee 3 disturbing him. It's especially suitable

for use in airports and supermarkets.

Everybody's voice is 4. When a person's voice is recorded by an instrument, its voice frequency spectrum is called his sound print. Like a fingerprint, everybody's sound print is different. How can computers 5 his sound? First, his voice is recorded, which allows the computers to become familiar with his voice. It will then turn his sound characteristics into a 6 of digits. These digits represent the frequency, pitch and rhythm of the person's voice. These are the 7 on which the computers can distinguish¹ his voice from 8.

When that person needs to be identified, after he says only one word or two, the computers can identify him. The computers can even identify sounds coming 9 the wires. This will provide a 10 guarantee to electric banks and electric purchases.

We often bring ID cards², work cards, or driver licenses with us to prove our identity. If all these cards are forgotten or lost, how can we prove 11 we are? In fact, it's not difficult to prove whom you are, because your body 12 has identifying markers. Some are physiological features, such as fingerprints, sounds, facial types and eye color. The computer can help to identify you. Suppose your features have already been stored in the database³. To identify you, we have to take your picture with a camera and send it to a computer for 13. First, the computer needs to reposition this picture according to the position of your eyes⁴, and then starts to read the message of your physiological features such as the 14 of your pupil⁵ to the whites of your eyes⁶ and the shape of his nose. Next, it seeks matching records from the database. Finally, it makes a 15.

词汇:

- hipbone n. 股骨
- pitch n. 音高
- limb n. 肢体
- license n. 执照
- database n. 数据库
- fingerprint n. 指纹
- spectrum n. 频谱
- reposition v. 改变...位置
- digit n. 数码, 数字

注释:

1. (basis) on which the computers can distinguish: 在这个基础上, 电脑能区分……. 前面带有介词的关系代词 which 引导定语从句, 修饰 basis.
2. ID cards: 身份证。ID = identity
3. Suppose your features have already been stored in the database: 假定你的特征已经储存在资料库里。Suppose your features have already been stored in the database 可以理解为 Let us suppose your features have already been stored in the database.
4. reposition this picture according to the position of your eyes: 按照你的眼睛的位置重新调整照片的角度
5. pupil: 瞳孔
6. whites of your eyes: 你的眼睛的眼白

练习:

1. A) checks B) stores C) revises D) modifies

- | | | | | |
|-----|-------------------|------------------|-----------------|------------------|
| 2. | A) nearly | B) approximately | C) roughly | D) accurately |
| 3. | A) without | B) with | C) for | D) in |
| 4. | A) identical | B) similar | C) unique | D) sole |
| 5. | A) hear | B) understand | C) distinguish | D) record |
| 6. | A) series | B) package | C) line | D) pair |
| 7. | A) origin | B) cause | C) reason | D) basis |
| 8. | A) other's | B) another's | C) each other's | D) one another's |
| 9. | A) at | B) on | C) in | D) through |
| 10. | A) cleverer | B) tidier | C) smarter | D) safer |
| 11. | A) how | B) whom | C) what | D) where |
| 12. | A) oneself | B) themselves | C) itself | D) himself |
| 13. | A) processing | B) copying | C) coloring | D) revising |
| 14. | A) size | B) type | C) ratio | D) shape |
| 15. | A) recommendation | B) decision | C) proposal | D) contribution |

答案与题解:

1. B 从上下文的意思判断,作者说的是往资料库里存储肢体的变化的资料。存储的英语词是 store, 所以要选 B. check (检查)、revise (修正) 和 modify (修改) 与上下文的意思都配不上。
2. D 选项 A 的 nearly (不完全地)、选项 B 的 approximately (近似地)、选项 C 的 roughly (概略地) 都不可能跟电脑的快速、准确的性能联系起来,而且约摸地辨认也不会有实用价值。只有选 D (accurately 准确地) 才符合逻辑。
3. A 前面句子说这是一项新的生物学的辨认技术,最后一句说,这项新技术适合机场和超市使用。以此推论,这是个好的技术。能辨认人而又不去打搅 (without disturbing) 被辨认人的技术才是好技术。选项 A 是本题的答案。
4. C 辨认依靠的是被辨认人具有的特性,每个人的声音也有其独特性和惟一性。所以,选项 C 的 unique (惟一的) 反映了这个道理,所以是答案。
5. C 本段前面几句是说人的声纹与指纹一样,可以用来辨认人。后面几句介绍电脑如何利用声纹辨认人。所以填入“空 5”的词一定是选项 C 的 distinguish. 其它三个选项提供的词,无论用哪一个都不合适,因为后面的句子都不是回答 “How can computers hear/understand/record his sound?” 这些问题的。
6. A 在句子 “It will then turn his sound characteristics into a ? of digits” (然后电脑将他的声音特征转换为 ? 的数码) 中,填入“空 6”的词似是相当于汉语中的量词。查看四个选项,只有 a series of digits (一系列数码) 最合适。a package of (一箱的)、a line of (一行的)、a pair of (一双的) 与 digits 都不搭配。
7. D 从意义上分析,选项 D 的 basis 是最合适的。而且 basis 与介词 on 也搭配,组成 on this basis (在此基础上)。其它三个选项的词不仅与上下文的意思不连贯,而且与 on 也不搭配。
8. B “空 8”所在的句子的意思是,电脑能够将某人的声音与他人的声音区分开来。答案是选项 D 的 another's. each other's (彼此的声音) 和 one another's (彼此的声音) 明显不对。other's 也不对,如果要用,就得是 others'.
9. D “空 9”所在的句子的意思是,电脑还能够识别通过电线传过来的声音。through 是合理的选择。所以, D 是答案。
10. D 本题解题的思路最好用排除法。如果选用 cleverer/tidier/smarter 与 guarantee 搭配,意思上有点怪,只有 safer guarantee (更安全的担保) 最合理。
11. B 电脑要证明的是我们是谁,即我们的身份,所以只能用 whom we are. B 是答案。
12. C body 的代词是 it, 反身代词是 itself. 句子的意思和语法都要求用反身代词,即 itself. C 是答案。

13. A “空 13”后面的句子说电脑对输入的人像进行多项处理 (first, then, next, finally)。要表达“处理”这层意思的英语词是 processing。A 是答案。
14. C 选用 size、type 或 shape 都不行。如果用了, “your pupil to the whites of your eyes”中的 to 就与 size、type 或 shape 不搭配。只有选 ratio, 意思上和搭配上都对。ratio 的用法是 ratio of...to...。
15. B 电脑辨认的结果一定要安全可靠, 不能含糊其词。所以, proposal, recommendation 都不会是答案。contribution (贡献) 的意思与上下文接不上。所以, 只有选项 B 的 decision 才是答案。

第十三篇

Debate over the use of Renewable energy

Ausubel of Rockefeller University in New York, US. says the key renewable energy sources, including sun, wind and biofuels, would all require vast 1 of land if developed up to large scale production¹ – unlike nuclear power. That land would be far better left alone², he says. Renewables look attractive when they are quite 2. But if we start producing renewable energy on a large scale, the fallout is going to be horrible. Instead, Ausubel argues 3 renewed development of nuclear.

Ausubel draws his conclusions by analysing the amount of energy renewables, natural gas and nuclear can produce in terms of power per square metre of land used³. Moreover, he claims that as renewable energy use increases, this measure of efficiency⁴ will 4 as the best land for wind, biofuels, and solar power gets used up.

Using biofuels to obtain the 5 amount of energy as a 1000 megawatt nuclear power plant would require 2500 square kilometres of farm 6, Ausubel says. "We should be sparing land for nature⁵, not using it as pasture for cars and trucks," he adds.

Solar power is much more efficient than biofuel in terms of the area of land 7, but it would still require 150 square kilometres of photovoltaic cells to 8 the energy production of the 1000 MW nuclear plant. In another example, he says meeting the 2005 US electricity demand via wind power alone would need 780,000 square kilometres, an area the size of Texas.

However, several experts are highly critical 9 Ausubel's conclusions. John Turner of the US government's National Renewable Energy Laboratory says that 10 the US got all of its power from solar energy, it would still need less than half the amount of land that has been paved over for highways. Further, it need not 11 additional land. The US could get a quarter of its energy just from covering rooftops of 12 buildings, he says.

According to Turner, the same "dual use" also applies to wind power⁶. "The footprint for wind⁷ is only 5% of the land that it 13. Farmers can still farm the land that the turbines are on⁸. Turner says looking solely at land use is an oversimplification of the 14. "I'm not sure I'd want to build one of these nuclear plants in Afghanistan⁹, but we could 15 put in wind and solar power," he adds.

词汇:

Renewable adj. 可再生的 n. 可再生能源

photovoltaic adj. 光电的
 rooftop n. 屋顶
 biofuel n. 生物燃料
 footprint n. 足迹, 影响区域
 fallout n. 余波, 结果
 turbine n. 涡轮机
 megawatt n. 兆瓦
 pasture n. 牧场, 牧地
 oversimplification n. 过于简单化

注释:

1. if developed up to large scale production: 如果开发达到大规模的程度。 if developed up to large scale production = if (the key renewable energy sources were) developed up to large scale production
2. That land would be far better left alone: 保留那一片土地远比使用它为好。(be) left alone 是“别动它”的意思。如:
 Leave him alone. He can solve the problem himself.
 (不要打搅他。他自己会解决问题的。)
3. Ausubel draws his conclusions by analysing the amount of energy renewables, natural gas and nuclear can produce in terms of power per square metre of land used: Ausubel 用每平方公尺土地与产生的能量的比率这一方法, 对可再生能源、天然气和核电厂发出多少能量进行分析, 从而得出他的结论。(that) renewables, natural gas and nuclear can produce in terms of power per square metre of land used 是定语从句, 修饰 the amount of energy, 关系动词 that 省略。in terms of 是“按照, 依据”。如:
 We cannot measure everything in term of money.
 (我们不能用金钱来衡量每一件事。)
4. this measure of efficiency: 这种效率的值。measure 这里指“值的大小”。
5. We should be sparing land for nature: 我们应该将土地留给自然。spare 是“免去, 免遭”。如:
 Call him and you will spare a visit.
 (打个电话给他, 省得自己跑一趟。)
6. the same “dual use” also applies to wind power: 同样的“双重利用土地”也适用于风力发电
7. The footprint for wind: 风力发电占用的土地。footprint 在此的意思是“影响区”。wind 实际上指的是“风力发电”。
8. Farmers can still farm the land that the turbines are on: 农民在涡轮机占用的土地上仍然可以耕种。Farmers can still farm the land that the turbines are on = Farmers can still farm the land on which the turbines are
9. I'm not sure I'd want to build one of these nuclear plants in Afghanistan: 我确定不了我是否还想在阿富汗建立一个这样的核电厂。这是一种委婉的英语表达方式 (understatement), 其真正要表达的意思是: 我不想在阿富汗建立一个这样的核电厂。

练习:

- | | | | | |
|----|------------|-------------|------------|--------------|
| 1. | A) figures | B) amounts | C) numbers | D) digits |
| 2. | A) small | B) huge | C) little | D) vast |
| 3. | A) at | B) over | C) for | D) against |
| 4. | A) expand | B) minimize | C) enlarge | D) decrease |
| 5. | A) same | B) similar | C) alike | D) identical |
| 6. | A) region | B) site | C) area | D) land |

- | | | | | |
|-----|---------------|----------------|-----------------|---------------|
| 7. | A) leased | B) cultivated | C) used | D) purchased |
| 8. | A) patch | B) match | C) catch | D) fetch |
| 9. | A) in | B) with | C) of | D) on |
| 10. | A) even if | B) only if | C) what if | D) as if |
| 11. | A) lock up | B) take up | C) give up | D) step up |
| 12. | A) towering | B) interesting | C) nice-looking | D) existing |
| 13. | A) surrounds | B) contains | C) includes | D) covers |
| 14. | A) issue | B) stuff | C) summary | D) suggestion |
| 15. | A) doubtfully | B) supposedly | C) certainly | D) honestly |

答案与题解:

1. B 虽然四个选项的词 (figures 数字, amounts 数量, numbers 数目, digits 数码) 都是与数字有关的, 在 of land 之前, 要用 amounts. B 是答案。
2. A 在 "Renewables look attractive when they are quite ____? _____. But if we start producing renewable energy on a large scale, the fallout is going to be horrible" 这两个句子之间, 有个连词 But, 说明两个句子的意思相反。后一句说, 如果大规模开发可再生能源, 其后果十分可怕。既然 "大规模"、"可怕", 前一句填入空格的词应该与之相反。选项 A 是 small, 正符合要求, A 是答案。
3. C Ausubel 是不赞成大规模开发可再生能源的。"空 3"后出现 nuclear, 可以合理地推论出, 这是他赞同的能源。所以要选 C 的 for. argue by (通过……进行争论), argue over (就……进行争论), argue against (争论以反对) 都不符合上下文的意思。
4. D "空 4"前面一句说, Ausubel 对可再生能源、天然气和核电厂发出的电量与其占用土地的量的比值作一比较。"空 4"所在的句子说, 随着风力发电、生物燃料发电和太阳能发电占用的最好的土地逐渐用完, 这个 效率比值会发生什么变化呢? 从 gets used up 分析, 效率比值应该变小才对。所以要选 D 的 decrease. minimize (使最小化) 不符合上下文的意思。
5. A 从句子的意思和词的搭配上, 填入 "空 5"的词是选项 A 的 same. same...as 是固定搭配。填入 same 之后, 句子的意思也完整了, 即: 用生物燃料得到与 1000 兆瓦核电厂相同的能量需要 2500 平方公里的耕地。
6. D 前文说的效率比值都是以 land 为标尺, 所以这儿要选 A 的 land.
7. C "空 7"所在的句子的意思是: 按 ____? ____ 土地计算, 太阳能的效率比生物燃料的效率高得多。最适合填入的词是 C 的 used. 其它三个选项 leased (租借)、cultivated (耕种)、purchased (购买) 都不符合上下文的意思。
8. B 本题只能选 B 的 match (相匹配), 其它三个选项, 即 patch (补缀)、catch (捕捉)、fetch (取来) 只是与 match 发音接近, 意思与上下文不匹配。
9. C critical 要求后接 of. C 是答案。
10. A John Turner 是反对 Ausubel 的计算方法的。从"空 10"所在的句子分析, the US got all of its power from solar energy 应该是一个让步状语从句, 选 A 的 even if 是对的。此外, only if (决不……除非)、what if (如果……怎么办)、as if (仿佛) 的意思都与上下文搭不上, 也佐证了选 A 是正确的。
11. B 本题只能选 B 的 take up (占用), 因为用上 take up 后, 上下文的意思就连贯了。其它三个选项, 即 lock up (锁上)、give up (放弃)、step up (加紧) 的意思与上下文不匹配。
12. D "空 12"所在的句子的意思是: 美国仅仅从 ____? ____ 大楼的楼顶 (铺设的太阳能电池板) 中就能得到四分之一的能量。从意思连贯的角度选择, 选项 D 的

existing 最符合题意。

13. D 本段第一句用了 "dual use".第二句说风力发电占用土地的百分数 (土地的第一个用途)。第二句说建有涡轮发电机的土地仍然可以用于耕种 (土地的第二个用途)。“空 13”要填的动词应该是 D 的 covers (覆盖)。the land that it (指代 wind) covers, 意为 "风力发电所覆盖的土地".
14. A an oversimplification of the _____? _____, 究竟对什么过度简单化呢? 从上下文看, 应该是对占用土地问题的过度简单化。选项 A 的 issue (问题) 正是上下文缺失的词。stuff (材料)、summary (总结)、suggestion (建议) 都不对。
15. C "空 15"所在句子的前半句是说不会在阿富汗建造核电站, 后半句用 but 开始, 说明前半句和后半句的意思相反。前半句用了 I'm not sure, 后半句用选项 C 的 certainly, 与 not sure 的意思相反, 是很合理的。